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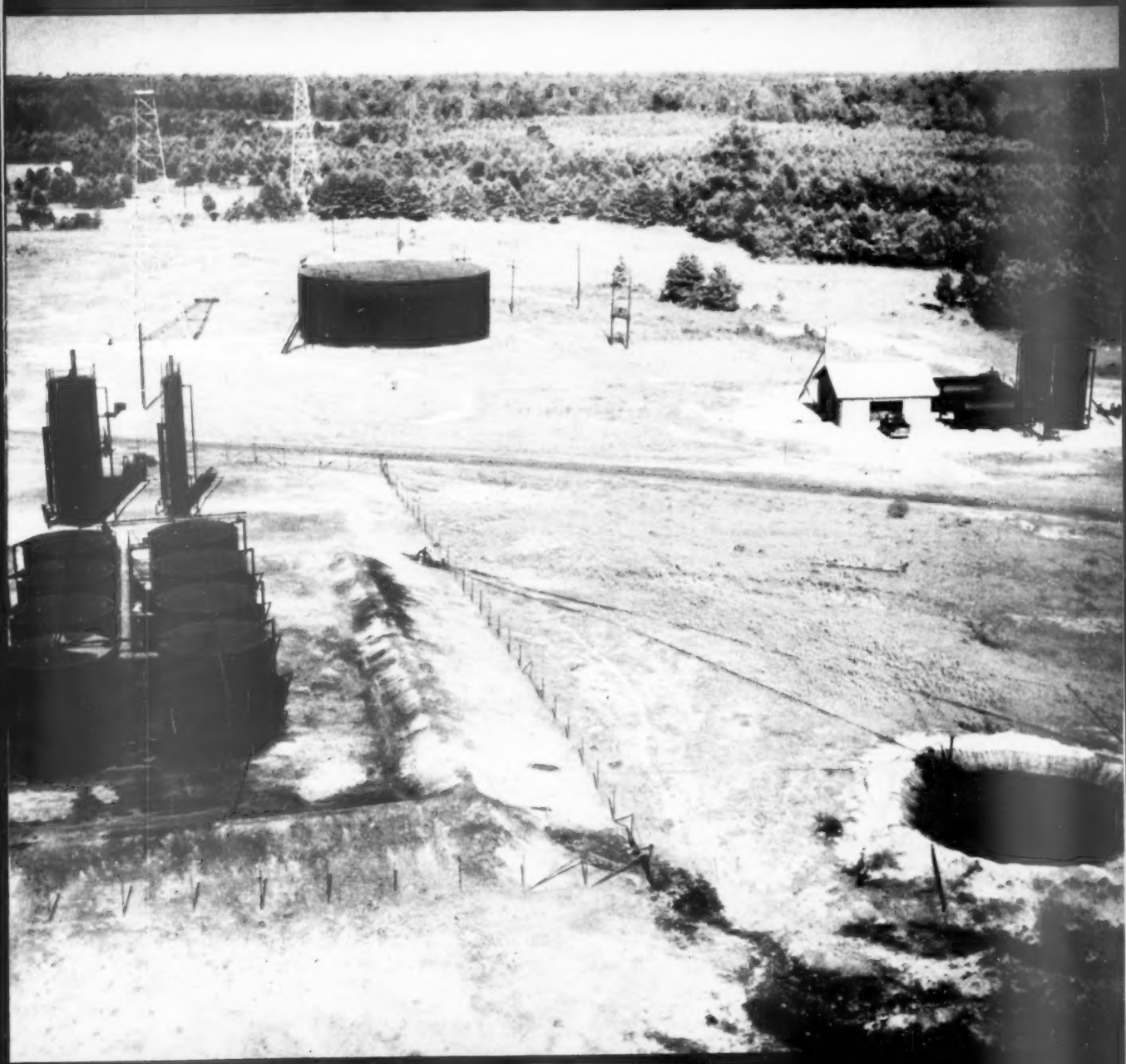

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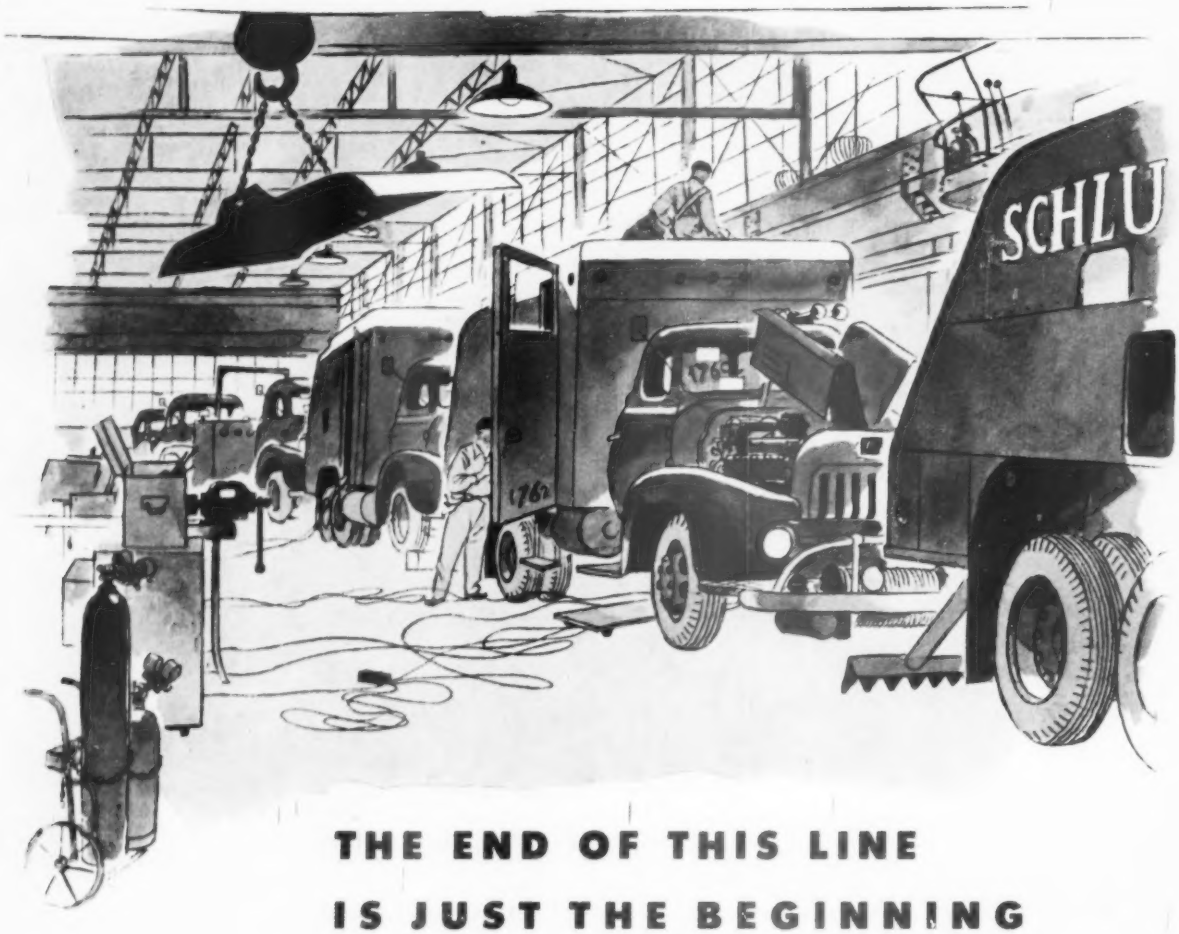
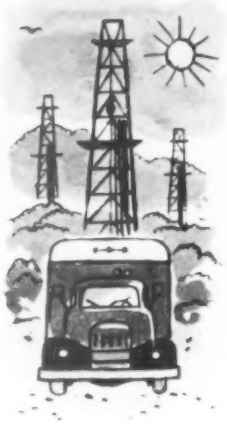


THE END OF THIS LINE IS JUST THE BEGINNING

When a Schlumberger truck rolls off this production line in the new Headquarters at Houston, it is dispatched to one of more than ninety field branches in the United States and Canada. Each unit is equipped to provide uniformly fine service under all conditions wherever it operates.



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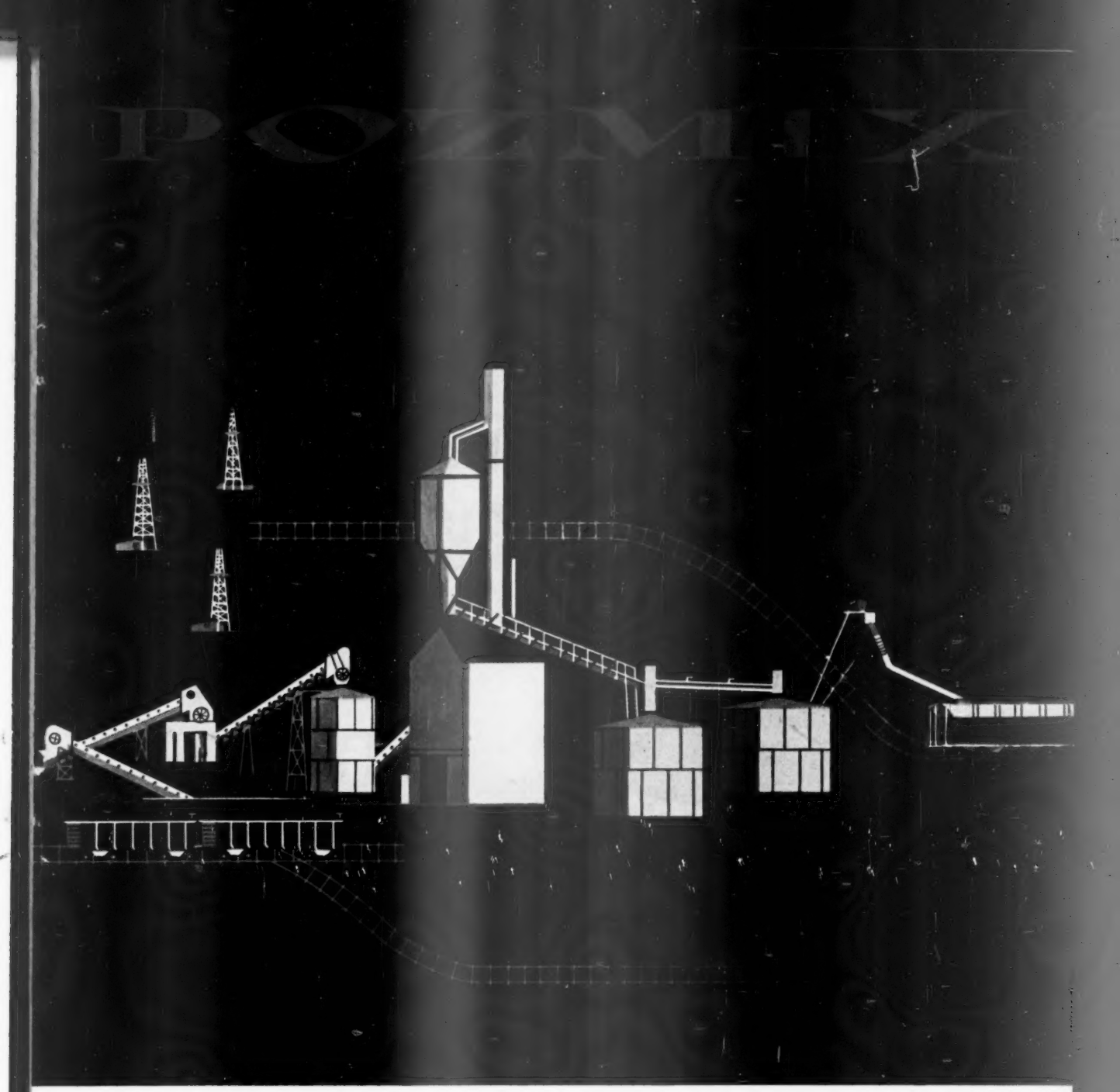

1000 YEARS NEW!

The Aztecs knew it by another name and Roman ruins reveal its use. Their buildings, still standing, are monumental proof of the permanence of pozzolans. Now this centuries-old cementing material again makes history as a great new development in production improvement. That's because Halliburton, in its unceasing search for better ways to serve you, found that the time-tested toughness of pozzolans could be mixed with portland cement to make oil wells as durable as the Aztec temples. Before this important discovery was announced Halliburton built a huge plant in El Paso to process Pozmix. Only then was the industry told about it. And, just months later, the millionth sack of Pozmix was used to make oil well cementing more secure. So broad is the scope of Halliburton's research that it looks back across the centuries for a new idea in progress.

HALLIBURTON OIL WELL CEMENTING CO., DUNCAN, OKLAHOMA

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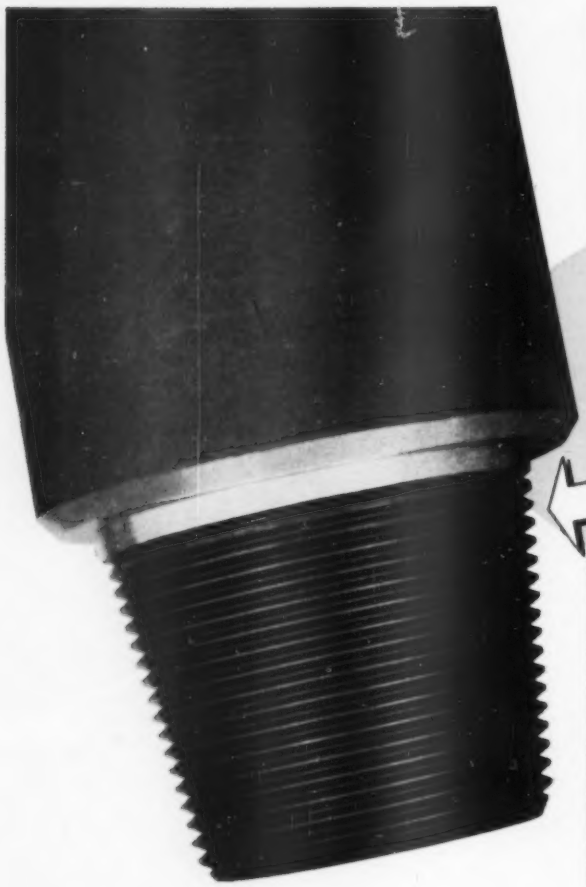

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An important cause of tool joint replacement is the galling of threads during the vital breaking-in period. To help minimize this trouble, most operators handle tool joints with extra care when new.

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It is one of the many important reasons why **REED** Tool Joints last longer.

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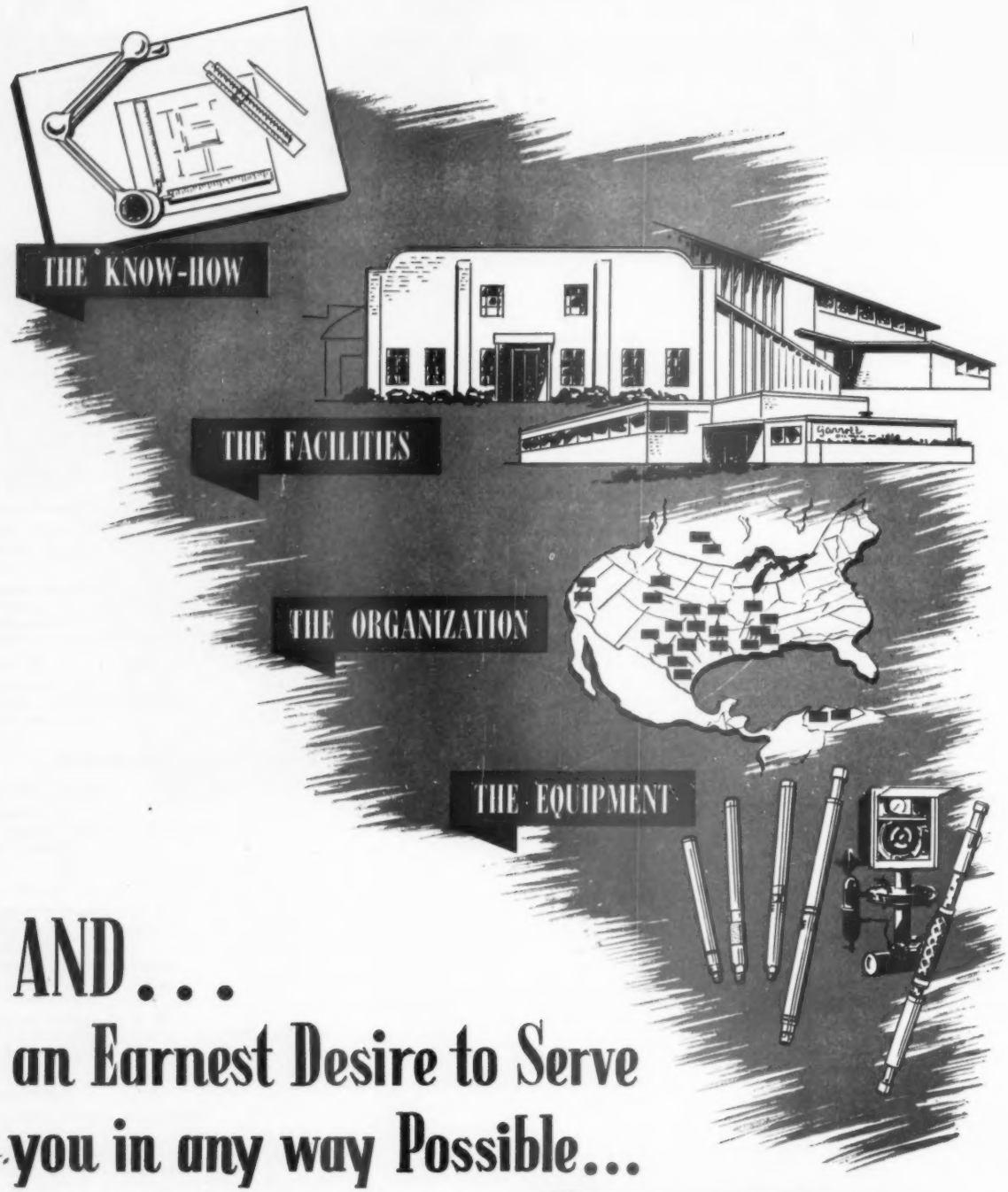

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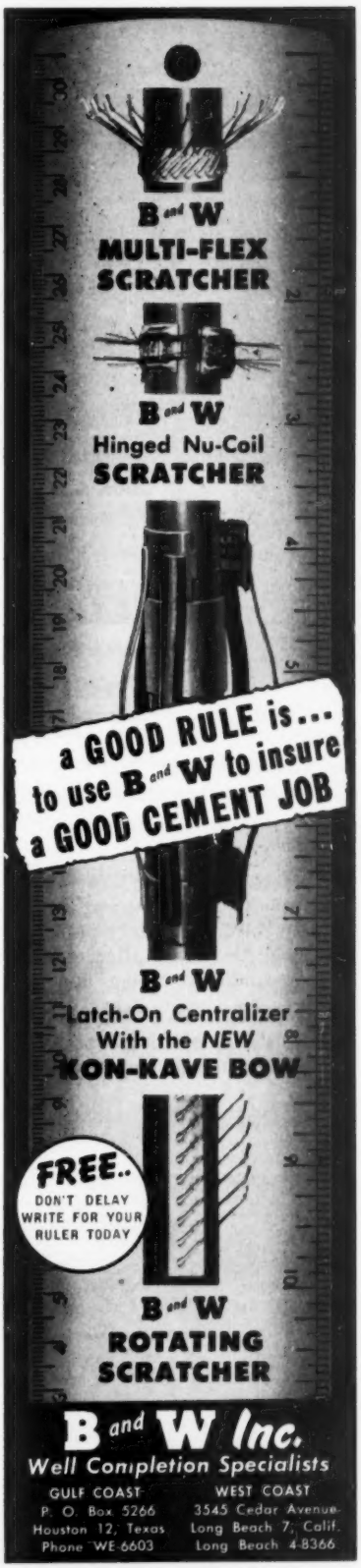
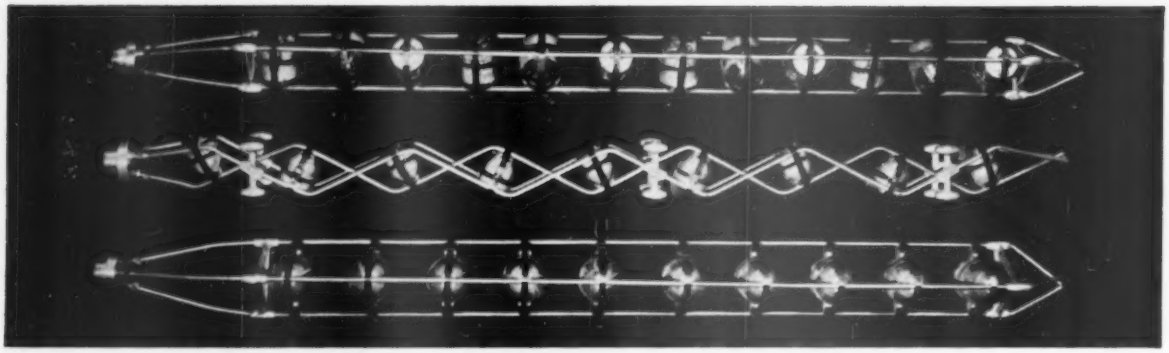
THIS MONTH'S COVER

This panoramic view shows the Wesson water flood plant, located in Ouachita County, Arkansas. Included in the scene are the filter and accumulator tanks, the heater treaters, and in the background one of the injection wells. Water flood operations are given special treatment in this issue, in the papers beginning on page 13, Sec. 1, and page 157 of the Transactions Section.

Photo courtesy James A. Lewis Engineering.



DOWELL GLASS GUN—



Shown above are three types of Dowell Glass Guns: horizontal-firing (top); angle-jet (center); mono-directional (bottom).

DOWELL Perfojet can be combined with these other Electric Pilot services

SELECTIVE ACIDIZING—Pilot is used to direct acid into selected zones to get best treatment results. As many as *three separate* zones can be acidized selectively in *one operation.*

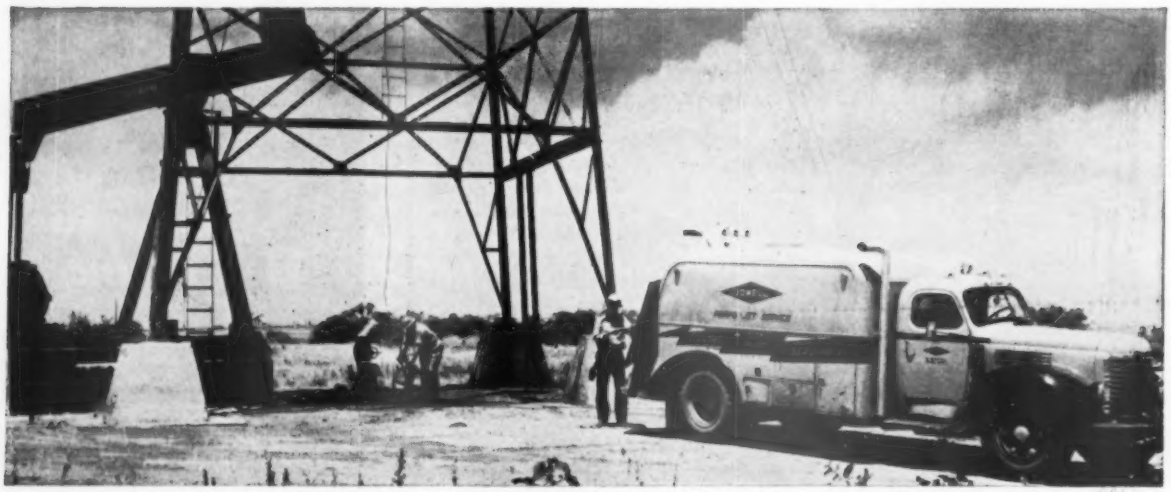
PERMEABILITY SURVEYS—Pilot is used to show location of permeable zones and their capacity to take fluid in relation to other zones, especially as a guide to selective acidizing. Also used to locate leaks around casing shoes, leaks around cement plugs and holes in casing.

SPINNER SURVEYS—Pilot is used to measure relative production or injection capacity of zones exposed in all types of producing or input wells.

WATER LOCATION—Pilot is used to locate points of water entry into wells, contributing to successful completion and workover programs. The latest water location method uses a photoelectric cell and opaque dye.

CALIPER SURVEYS—Pilot is used to give information on well bore diameters and irregularities. The caliper automatically records diameters as large as three feet and shows variations as small as casing collars—a fractional part of an inch!

THE ELECTRIC PILOT is also used for Radio-active Surveys, Temperature Surveys, Hot Wire Lost Circulation Surveys, wire-line bridge plugs and production packers.



BEST IN JET PERFORATING!

Deeper penetration—large hole size—wide choice of "shooting" patterns with the DOWELL expendable Glass Gun

The expendable Glass Gun, developed by Dowell, uses the shaped charge to provide more effective well perforating than ever before. The large amounts of explosive used and the design of the charges, give deeper penetration and bigger hole size.

The Glass Gun consists of shaped charges held in a carrier made of $\frac{1}{16}$ inch aluminum tubing. Each charge is sealed in two fluid-tight glass hemispheres and positioned in the carrier according to the desired "shooting" pattern. Glass Gun charges have withstood 10,000 psi pressure without collapsing or leaking.

These charges are detonated by Primacord, an explosive cord contained in the aluminum tubes. When the charges are fired, high velocity jets of gas are formed. These jets can penetrate more than seven inches into mild steel. At the same time, the glass containers and the carrier are disintegrated by the explosion, leaving a junk-free hole.

Dowell Glass Guns can be assembled to fit almost any well, with carrier sizes ranging from as small as $3\frac{5}{8}$ inches up to 3 feet or more in diameter.

Among the Glass Guns offered by Dowell are the following types designed to meet various formation characteristics: the *horizontal-firing* gun for deep, level penetration . . . the *angle-jet* gun that shoots upward at an angle of 30° from the horizontal to penetrate shale streaks . . . the *monodirectional* gun which fires all its charges in the same direction for vertical-plane fracturing.

For effective jet perforating, you can rely on Dowell Perfojet with the Glass Gun. For complete information on this development, call your nearest Dowell office, or write directly to Tulsa, Dept. F15.

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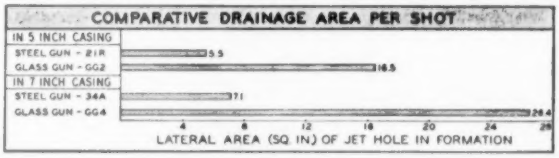
PERFOJET PERFORMANCE DATA

COMPARATIVE PENETRATION IN CASING PERFORATING

CASING SIZE	GUN SIZE	TYPE CHARGE	APPR. PERF DIAMETER	INCHES PENETRATION IN FORMATION (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15)
●USING STEEL GUN IN CASING				
5"	3⅛"	10R	½"	8.8
5"	3⅜"	21R	½"	8.1
5½"	4"	21R	½"	7.7
7"	5"	34A	½"	7.5
5" IN 7"	3⅜"	21R	½"	5.7
●USING GLASS GUN IN CASING				
5½"	4⅜"	GG2	½"	14
7"	4⅞"	GG4	½"	13
5" IN 7"	3⅜"	GG2	½"	11.5

COMPARATIVE DRAINAGE AREA PER SHOT



PENETRATION IN OPEN HOLE SHOOTING WITH GLASS GUN

OPEN HOLE SIZE	GUN SIZE	TYPE CHARGE	INCHES PENETRATION IN FORMATION (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18)
6"	4 15/16"	GG4	16
8"	5½"	GG7	18

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Acidizing • Fracturing • Electric Pilot • Perfojet
Paraffin Solvents • Jelflake® • Bulk Inhibited Acid
Chemical Cleaning for Heat Exchange Equipment.

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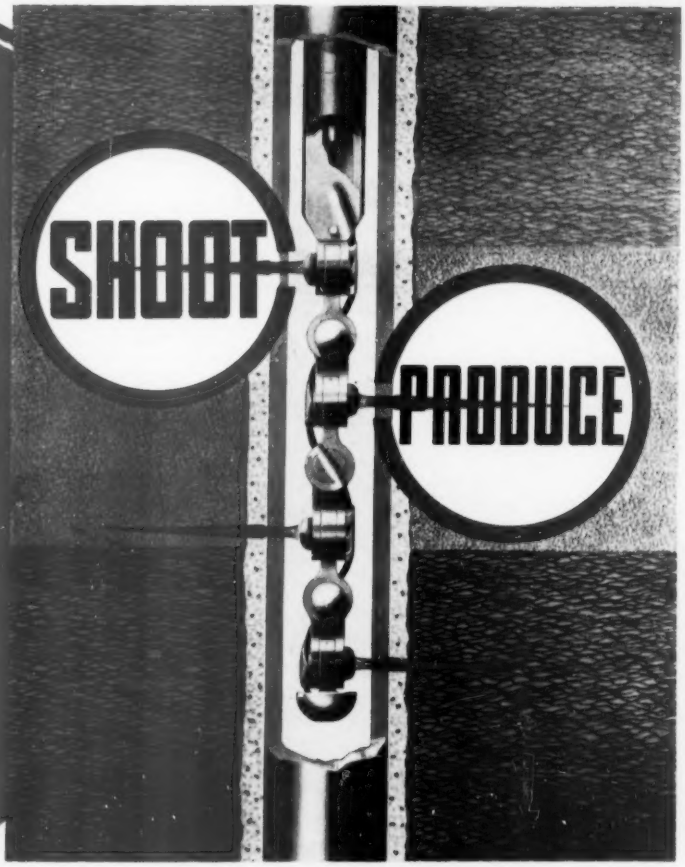

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2. The elimination of perforation plugging with mud.
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4. Safety advantage of having Christmas Tree and other surface connections completely installed prior to perforating.
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News Briefs

Per foot drilling costs have increased little, if any, for Gulf Oil Corp. over the past five years, according to the company's division engineers. Fort Worth Division Engineer A. L. Holland, Jr., told Gulf's Production Engineering Conference in Pittsburgh last month: "We believe we can safely say . . . that drilling costs to the company have not appreciably increased during the past five years. That is, wells drilled to the same depth cost little, if any, more in 1952 than they did in 1948." He blamed actual higher drilling costs on the necessity for drilling deeper for oil today. Per foot costs have been maintained approximately at the 1948 level because of "more efficient drilling programs, increased efficiency of drilling bits and many other improvements in drilling techniques."

* * *

Meanwhile, at a secondary recovery session of Gulf's Production Engineering Conference, M. R. Smith of the company's Tulsa Division said that in fields where his division operates leases, the total increased oil from secondary recovery would amount to "well over 100,000,000 bbl eventually." Smith said interest in secondary recovery methods has been stepped up by the rising cost of finding new oil. He pointed out that such projects are in operation on 7,463 acres in the Tulsa Division and described gross oil production from these fields as "averaging 15,022 B/D as compared to an estimated normal rate of 6,529 B/D without fluid injection."

* * *

Dr. Herman Franz Mark of Polytechnic Institute of Brooklyn told the American Institute of Chemists last month that "fundamental chemical research in Western Europe has astonishingly recovered in the last few years." He said that most laboratories are well-equipped, and well staffed. Research activity is intense in the areas of biocatalysts, antibiotics, organic syntheses and new catalysts for them, new types of macromolecules, heterogeneous catalysis, infrared fluorescence, and resin conductivity. Dr. Mark's views were presented at the Annual Honors meeting of AIC where he was presented the Honor Scroll for 1953. Dr. Mark is a famed polymer chemist and director of the Polymer Research Institute.

* * *

Many automobiles will be powered by efficient gas turbines within 10 years, according to a British gas turbine and jet propulsion expert who is temporarily in this country teaching at Columbia University. He is James Hodge, on leave from Power Jets, Ltd. Hodge predicts that "gas turbines with an efficiency of about 30 per cent will gradually replace the older gasoline engine, which at the very best is 25 per cent efficient." He says the British Navy is already using gas turbine propulsion in motor torpedo boats because of its high power output and low weight. Hodge added that the gas turbine will likely achieve 45 per cent efficiency in larger units.

* * *

Phillips Petroleum Co. made available to its stockholders two weeks ago one of the largest issues of convertible debentures ever offered to shareholders. The issue is in the amount of $162,098,500 of 3.70 per cent sinking fund debentures, due 1983. The company offered, for a two-week period, to holders of its common stock rights to subscribe to the debentures in the ratio of $100 principal amount for each nine shares of common stock held, at a price of $100 per $100 debenture. The debentures are convertible into common stock (unless previously redeemed) at $65 per share until June 1, 1958, and $72 per share thereafter until June 1, 1963.

* * *

Continuing its search for oil in England, D'Arcy Exploration Co., Anglo-Iranian's prospecting subsidiary, has received a prospecting license for an area of 114 square miles to the east of Sleaford in Lincolnshire. The license has been taken as the result of geophysical work carried out in the area some time ago. At present, however, the company is concentrating drilling effort in the East Midlands in the area of the Eakring Field.

* * *

Meanwhile, Anglo-Iranian's 44th annual report to stockholders announces a "slight decline" in sales but a rise in net income and plans for a major expansion of its world-wide production facilities. The company's net income gain came after its first full year of operations without oil from Iran. The company sold 670,700 B/D of crude and refined products during 1952, an 8.6 per cent drop under the 733,600 B/D sales figure of 1951.

* * *

The chairman of the Engineering Manpower Commission of Engineers Joint Council, Dr. T. H. Chilton, says that our military service laws "as they are now written" could call up "over 25 per cent of all engineers and scientists engaged in research and development programs." Deploring the laws (primarily Public Law 51), Dr. Chilton added: "This situation can create chaos in the industrial support of mobilization." His primary concern is with the Department of Defense's power to recall reservists. He wants civilian participation in the recall of scientific personnel for military service. A bill is now before Congress which calls for this measure and is an outgrowth of a report by the Columbia University National Manpower Council, a body created by Dwight D. Eisenhower in 1950.

* * *

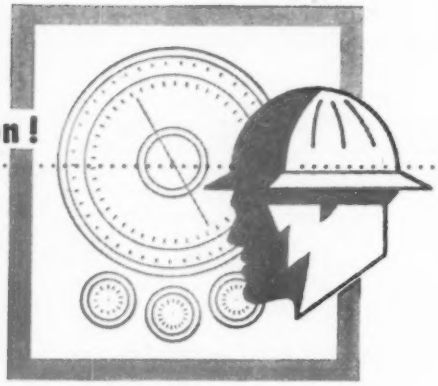
Shell Oil Co. has announced a new gasoline additive, to be marketed nation-wide within 90 days, that it describes as "the biggest development in motor fuel since the introduction of tetra ethyl lead" 31 years ago. Shell claims the additive will give an automobile "up to 15 per cent more power." It also claims more miles-per-gal and longer spark plug life for the product user. The new additive is TCP, a cresyl compound that uses tricresyl phosphate as the basic ingredient. The new additive will run premium gasoline containing it up a half-cent per gal.

* * *

The national Bureau of Standards will adopt a new value for the viscosity of water on July 1. A new value of 1.0038 centistokes at 68° F has been established in place of 1.0070 centistokes at 68° F, the value currently in use. Accordingly, extensive revisions to viscosity methods and tables will be required. The ASTM Committee D-2 on Petroleum Products and Lubricants is currently preparing the necessary revisions to the viscosity standards and tentatives affected. ★ ★ ★

OPENS BY WEIGHT OF DRILL PIPE....

with positive surface indication!



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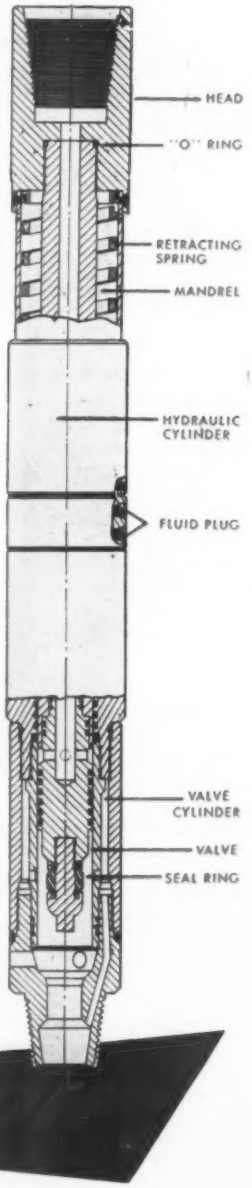
MORE THAN EVER, HALLIBURTON'S BEST FOR YOUR DRILL STEM TEST!

Now you have a testing tool that eliminates rotation, dropping of bar, or turning of J-slots to open. Hydrospring opens easily and positively by *weight of drill pipe* – a major step forward in the vital business of well testing.

And there's no guesswork about the Hydrospring Tester being open. A slight jar of the drill pipe and definite movement of the weight indicator needle give proof positive at the surface that the tool is open.

Here's the record of a recent testing job at Odessa, Texas: Total depth–11,850′; packer set–11,777′; TC Valve run three joints above tester; weight on tester–25,000 lb.; time to open tool–3′ 30″.

This is just one of more than 1500 perfect runs scored with Hydrospring.



There are additional advantages that set Hydrospring above ordinary testing tools: it is a combination tool requiring fewer assemblies; it can be run in rapidly to reach bottom quickly; it permits reversing off bottom simultaneously with taking closed-in pressure. And it can be rotated coming out of hole.

This miracle of modern testing is the result of Halliburton's continuous, energetic research and hard-won experience in the field. Combined with the Bourdon Tube Pressure Recording Device, this trouble-free, time-saving tool offers many exclusive features that make Halliburton best for your drill stem test!

Take advantage of Hydrospring Tester on your next job. Your Halliburton Testing Operator, only minutes away, is ready to swing into action when you call. Halliburton Oil Well Cementing Company, Duncan, Oklahoma.

YEARS AHEAD IN DRILL STEM TESTING!

Water Input Profile Determinations on Injection Wells In Secondary Recovery Fields

By Bliss Adamson and Bob Diggs Brown
Halliburton Oil Well Cementing Co.

Abstract

The knowledge of the distribution of input water in injection wells is important to the success of water flood secondary recovery projects. The presence of thief formations, the lack of complete well history, and improper completion methods all contribute to diverting the flood water from the producing horizon. Through the use of known tools and procedures, input profiles can be obtained.

The interface velocity procedure coupled with caliper and correlation logs give satisfactory input profiles. These provide the data to detect the presence of the undesirable conditions and for the method of correction. Under normal conditions the correlations between profile data and permeability data from cores is good.

Introduction

The application of secondary recovery methods to oil production has spread rapidly throughout the oil fields of the United States. This has created a desire for greater knowledge of the behavior of the oil reservoir under a secondary recovery program. In the case of water flooding projects and particularly during the early stages of pilot flood work, it is important to know the water is being directed through the proper zone.

In a recent paper on secondary recovery water flood projects which had been classified as unsuccessful,[11] it was shown that a considerably larger quantity of water had been injected than fluid recovered. This indicated that the flood water was going into zones which were not part of the oil reservoir. Confirmation of this was not established since no attempt had been made to determine the distribution of the input water into the zone being flooded.

The need for this type of information on many water flood projects has caused the secondary engineers to seek means of obtaining this data in an effort to better understand and evaluate their various floods.[1,3,4,5,6,7,9,12]

This would require a procedure which would work satisfactorily on wells completed either through perforations, open hole, or shot hole under the following water flooding conditions, namely: (1) Surface injection of flood waters under pressure; (2) Surface injection of flood waters at atmospheric pressure; (3) Dump flood wells using water for flooding from a zone above the oil reservoir.

In addition, any tool involved would have to be small enough to work through 2-in. tubing, since a large number of injection wells have tubing in them. In some cases it is not desirable and in others it is not possible to remove it.

A review of the art of locating water entry into oil wells as disclosed by Elliot,[1] Ennis[12] and Tapper and Hartline[10] indicated the possibility of detecting fluid movement through the use of fluids of different resistivities. Work by Bowler[2] on the use of oil-brine interfaces, and by Hefler and Fitzgerald[3] on oil-acid interfaces, substantiated the feasibility of following electrically the interface between two dissimilar fluids. This technique was further improved on by Pfister and McCormick[4,5,7] and their associates at Pennsylvania State College who worked with brine-fresh water interfaces. Other approaches to the problem of determining input profiles were made by Morgan, Reed and Gray[6] and by Piety and Wiley.[9] Since the conditions imposed on the procedure for obtaining water input profiles were limiting, it was decided to approach the problem through the use of the interface method. Fluid velocities in the bore hole obtained by this method were interpreted to give the water input profile. Another approach to obtaining similar data was the application in reverse of the Strataflow process for locating water.[2] The electrode used for water locating is only one in. OD, thus meeting the requirements for a tool capable of going through 2-in. tubing. This was used for making the fluid velocity and fluid resistance measurements.

The procedure for compensating for hole size as derived by Pfister and McCormick[3,4] was not applicable to the test conditions due to the physical limitations placed by the well equipment. For this reason, corrections for hole size had to be made from caliper logs. This was one factor which required evaluation before the method could be considered satisfactory.

Well A was selected for the preliminary field work. Normal injection rate was 17.5 B/H at 500 psi. Upon releasing the pressure, the well would flow back for several minutes and then take fluid at 6 B/H at zero surface pressure. This offered a variety of conditions under which tests could be conducted.

The results of these tests indicated that the fluid interface velocity procedure would work satisfactorily. The e data, after being adjusted for hole size variations from caliper log data, gave a consistent picture of the water input profile.

The data obtained from the flow back tests or reversed Strataflow process supported the results of the interface velocity tests.

Procedure

The interface velocity procedure consists of establishing an interface between two fluids of different electrical characteristics. This can be done using fresh and salt water. In the case where salt water is normally used as the injection fluid, fresh water is introduced as the marker fluid. This is done by shutting off the salt water and adding a quantity of fresh water at the normal injection rate. Then the salt water is again turned into the well. This should be done as rapidly as possible to eliminate any chance of the well becoming unbalanced. At the contact face between the fresh and salt waters, an electrical resistance difference exists, establishing a marker in the fluid column which moves at the same rate as the velocity of the column. A shielded electrode is run into the well on an electrical cable to detect this marker. The electrode is placed below the marker and the time noted when the marker arrives at the electrode. The electrode is again lowered a given interval below the previous point and the time noted when the marker again

[1]References given at end of paper.
Paper presented at the Petroleum Branch Fall Meeting in Houston, Tex., Oct. 1-3, 1953.

reaches it. This procedure of lowering the electrode and noting its depth and the time of arrival of the marker is continued until the marker ceases to move. From this, data of fluid velocity *vs* depth can be obtained.

The movement of the marker can be affected both by the loss of fluid and variations in bore size. Since fluid loss is the factor to be determined, it is necessary to eliminate the effects of bore hole variations.[3, 4, 5]

The velocity of a constant volume of fluid through any pipe will be directly proportional to the square of the inside diameter. This is true of the interface velocity in a bore hole. It will change as the square of the bore hole diameter. This makes it desirable to have it related to a constant bore hole size, normally the casing ID. The correction factor for each increment of bore hole is obtained by dividing the square of the bore hole diameter by the square of the casing ID. The velocity at this point is multiplied by this factor. This is done for all the points on the velocity

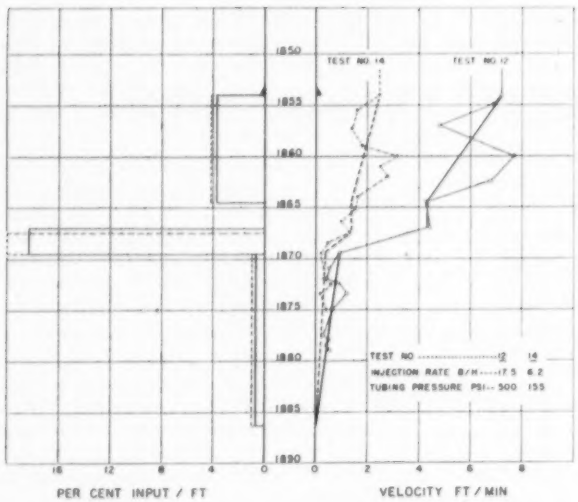


FIG. 1 — INPUT PROFILE AND INTERFACE VELOCITY LOGS, WELL A.

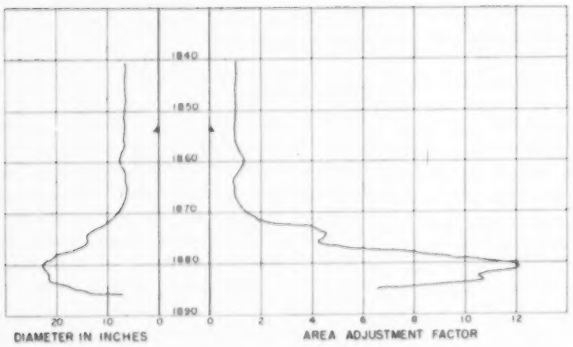


FIG. 2 — CALIPER AND AREA ADJUSTMENT FACTOR LOGS, WELL A.

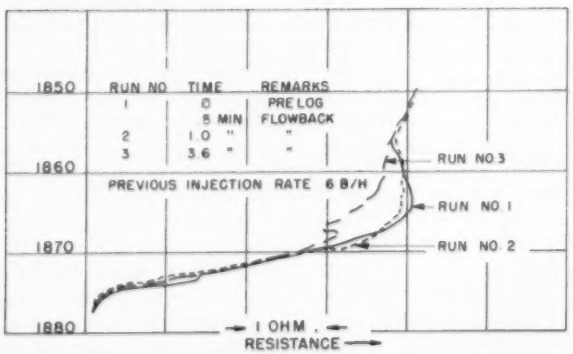


FIG. 3 — FLOWBACK LOGS, WELL A.

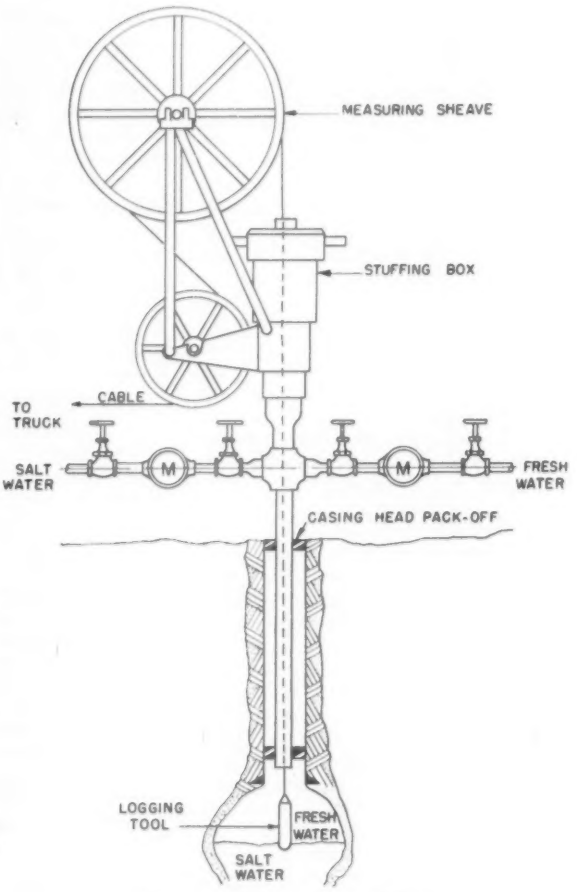


FIG. 4 — WELL HEAD SET-UP, WELL B.

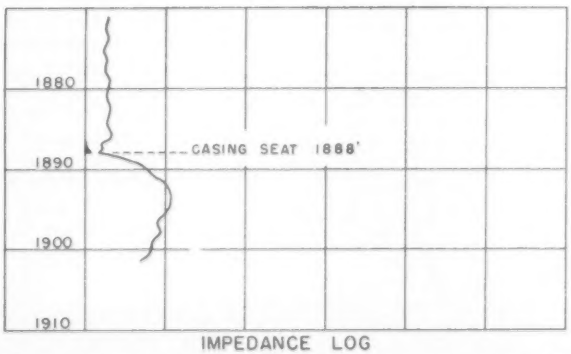


FIG. 5 — CASING SEAT DETERMINATION USING SINGLE POINT LOG, WELL B.

curve. The bore hole diameters are obtained from the caliper log.

Referring to Fig 2, the area adjustment factor of 2 for the depth of 1,872 ft can be obtained as follows:

Casing size = 6.7 in.

Hole size @ 1,872 ft = 9.5 in.

$$\text{Area adjustment factor} = \frac{9.5^2}{6.7^2} = 2$$

The corrected interface valuation of .4 ft/min @ 1,872 ft as shown in Fig. 1 was obtained by multiplying the recorded velocity of .2 ft/min by the adjustment factor of 2.

A change in velocity across any zone can be considered due to the loss of fluid into the zone. This change, expressed as a percentage of the maximum velocity, is the per cent of the total fluid input into the well that is leaving the bore through this zone. This information can then be plotted in any one of several ways to suit the needs of the reservoir engineer. In the case where fresh water is being injected, salt water is added to form the marker.[3,4,5]

Fig. 1 indicates that 18.3 per cent of the total input is being injected into each foot of hole through the zone from 1,867 ft to 1,869.5 ft. This was determined in the following manner.

Casing vel. = 7.2 ft/min

vel. at 1,867 ft = 4.3 ft/min

vel. at 1,869.5 ft = 1. ft/min

$$\% \text{ input/ft} = \frac{3.3}{7.2} \div 2.5 = 18.3$$

The flow back test procedure consists of making fluid resistance measurements *vs* depth in the annulus opposite the producing horizon. This is done just before discontinuing the injection of fresh water after the interface velocity test and immediately after shutting down the injection fluid. Under these conditions, the bore hole contains fairly fresh water which is contaminated by the salt water that is produced by the well when it is allowed to flow back. This results in a reduction of the fluid column resistance opposite the zones of water entry. A series of these surveys is made at several minute intervals to show the progress of the contamination.

Field Data and Results

Referring to the results on Well A, it will be noted that the interface velocity data shown in Fig. 1 contained variations which were not readily explainable. However, due to the fact that the same general variations existed on all surveys, it was felt that they were caused by hole size variations not indicated by the caliper log. The dotted curve is an average curve from which the data for the per cent input *vs* depth logs were obtained. Fig. 2 shows the caliper log along with a plot of the area adjustment factors obtained from the caliper log. These factors are used for adjusting the interface velocity data to a common reference so the velocity data can be directly interpreted into fluid input profiles.

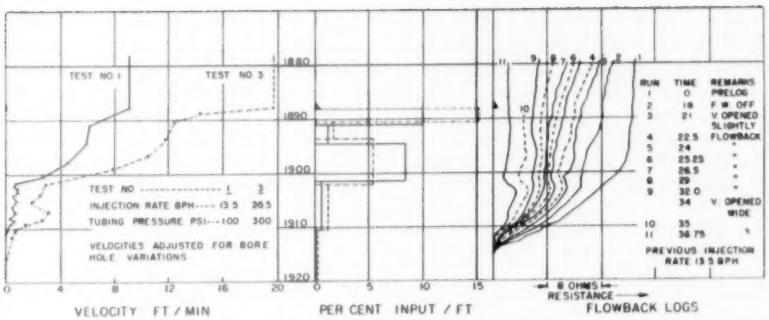

TEST NO. 1
TEST NO. 3
TEST NO 1 3
INJECTION RATE BPH 13.5 25.5
TUBING PRESSURE PSI 100 300
VELOCITIES ADJUSTED FOR BORE HOLE VARIATIONS
RUN TIME REMARKS
PREVIOUS INJECTION RATE 13.5 BPH
8 OHMS RESISTANCE
VELOCITY FT / MIN
PER CENT INPUT / FT
FLOWBACK LOGS

FIG. 6 — COMPOSITE LOG OF INTERFACE VELOCITIES, INPUT PROFILES AND FLOWBACK LOGS, WELL B.

Fig. 3 shows the flow back test results. While these are not conclusive within themselves, they do tend to support the velocity data. They indicate that the majority of the fluid is leaving the bore hole above 1,875 ft.

In view of the encouraging results obtained, it was decided to work on another well.

Well B, which was selected for the second test, had an input rate of 36 B/H at 500 psi. When the pressure was released, it would flow back for several days. Due to this, fittings were provided so a pump could be connected to the well to keep it pumped down while getting the tool in and out.

The interface velocity procedure and the flow back tests were made on this well with input rates of 13.5 and 25.5 B/H. The results of these tests agreed within themselves, but indicated the fluid to be leaving the bore hole in a zone which had been considered impervious. This raised the question of whether or not the depth measurements were correct. To eliminate this factor, the shielded electrode was revised so that a single point electric log could be obtained to check the casing seat. This survey permitted the adjusting of all the results to the casing shoe rather than to a surface depth reference. However this did not change the picture regarding the water input profile.

Fig. 4 is a schematic of the well head set-up used on Well B.

Fig. 5 is the single point impedance log used to locate the casing seat.

Fig. 6 is a composite log of the interface velocity input profile and flow back logs. The interface velocity logs indicate the majority of the fluid to be leaving the bore hole through two zones — 1,888 ft to 1,891 ft and 1,894½ to 1,901½. Little fluid is getting below 1,910 ft. This condition is further supported by the flow back tests. These indicated a rapid reduction in the fluid column resistance above 1,902 ft. The lack of fluid movement below 1,912 ft is indicated by the fact that the salt water column below this point was not contaminated by the fresh water used to obtain the velocity data.

With approximately 99 per cent of the fluid leaving the bore hole above

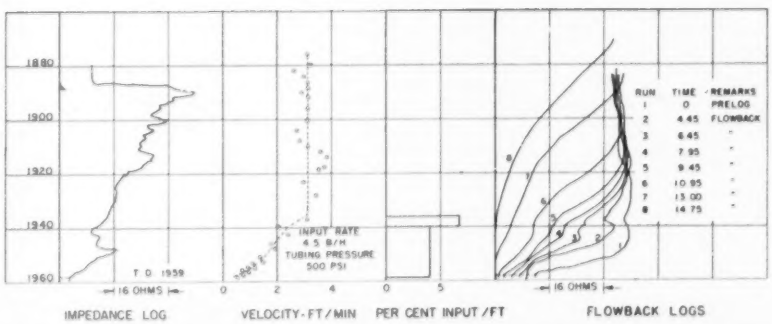


FIG. 7 — COMPOSITE LOG OF ELECTRIC LOG, INTERFACE VELOCITY, INPUT PROFILE AND FLOWBACK LOGS ON WELL B AFTER REWORK.

1,910 ft, the producing zone is left with little to flood below this depth. Under these circumstances, this well needed reworking to divert the injection water into the proper zone.

The experience gained from this test indicated the definite need for a means of locating the casing seat and for information which could be correlated against previously obtained data. In this manner, any discrepancies in depths due to inaccurate records, selection of the wrong depth reference, or errors in the measuring device itself, could be eliminated. This was accomplished by incorporating a logging electrode and a shielded electrode in the same tool with facilities for selecting the proper electrode with the tool in the hole. This, then, would permit the recording of a correlation log which could be compared against previously obtained logs and from which the casing seat could be determined. Upon completion of the rework program on Well B, another series of fluid velocity and flow back tests was conducted to determine if the input profile had been changed. The results, as shown in Fig. 7, indicate that the majority of the fluid is now leaving the bore hole below 1,936 ft. In the previous survey this occurred above 1,910 ft. The success of the remedial work in diverting the fluid to a new zone is further supported by the reduction of the input rate from 1,000 B/D to 200 B/D after the rework job.

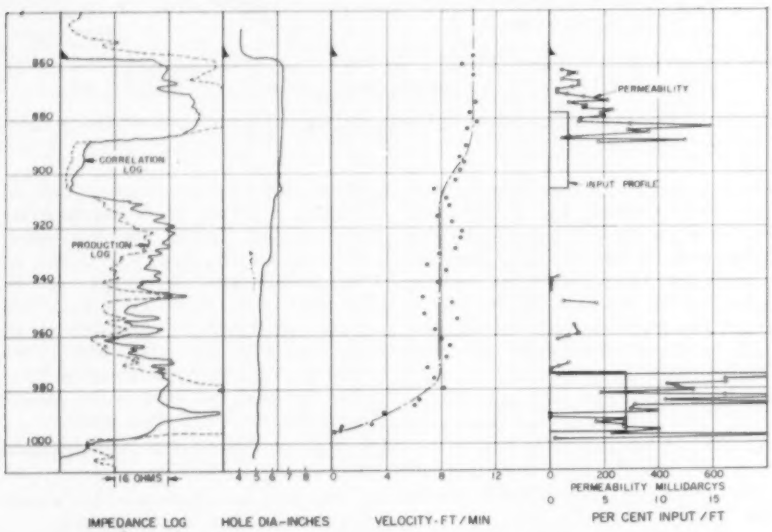


FIG. 8 — COMPOSITE LOG OF ELECTRIC LOG, CALIPER, INTERFACE VELOCITY, INPUT PROFILE AND PERMEABILITY LOG, WELL C.

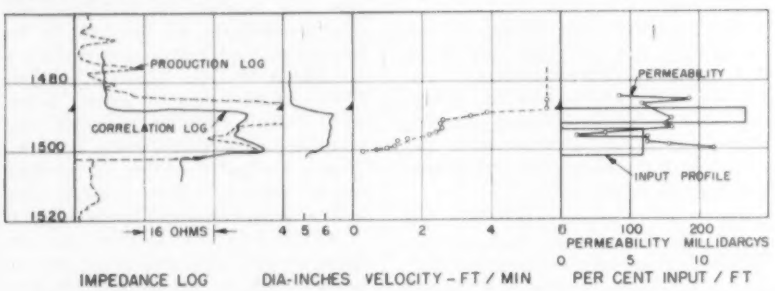


FIG. 9 — COMPOSITE LOG OF ELECTRIC LOG, CALIPER, INTERFACE VELOCITY, INPUT PROFILE AND PERMEABILITY LOG, WELL D.

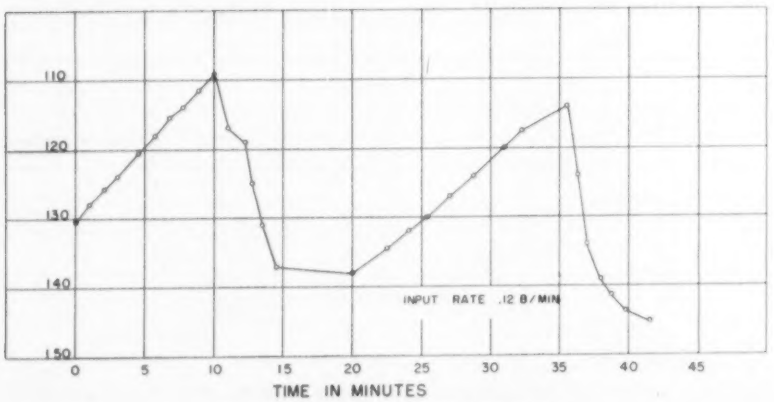


FIG. 10 — FLUID LEVEL POSITION VS. TIME.

Wells C, D, and E were zero pressure surface injection wells in which fresh water was being used for flooding through the casing. Only the interface velocity curves were obtained since these wells would not flow back.

The results obtained on Well C are shown in Fig. 8. There was nothing unusual about this well. It was the first well where a comparison between permeability obtained from cores and the input profiles was possible. The agreement was very good.

Well D was found to have the casing set 4 ft too high, exposing a nonproductive horizon which was taking approximately 53 per cent of the injection water. This point was observed after comparing the correlation log obtained while making the velocity tests against the electric log made at the time the well was completed. The elimination of any depth variations by the use of the correlation log removed any doubt as to the amount of section exposed.

Fig. 9 is a composite of the tests on Well D. The agreement between the permeability profile and the input profile again is very good.

Well E, while similar to Wells C and D, was very unstable at the normal injection rate. A check of the fluid level showed it to vary with time, causing erratic fluid velocities at a constant input rate. Fig. 10 shows the fluid level position plotted against time. In order to offset this, the input rate was reduced to a point where the fluid level stabilized, permitting the velocity data to be obtained. The input profile obtained from this data compared very favorably with the permeability data obtained from cores. Fig. 11 shows this comparison.

Well F was surveyed to determine whether or not a casing leak existed.

Fig. 12, which shows the results of the surveys, does not indicate any fluid loss other than into the formation below the pipe.

Well G was a dump flood well. In order to obtain data on this well, it was necessary to remove the perforated tubing above the production packer and replace with a solid string. One tank each of fresh water and salt water was spotted at the well site and all fluid used during the tests was taken from them. In this manner, complete control of the input rate of the flooding waters was possible. The tests were conducted in the same manner as before, obtaining interface velocity data which was adjusted to give an input profile. Fig. 13 shows the data obtained. The major zones of water entry occurred at 3,505 ft to 3,512 ft and from 3,531 ft to 3,537 ft. The casing seat was located from the correlation log. Comparison of this log with a previously obtained neutron log provided the necessary correlation between the input profile data and previous knowledge of the well.

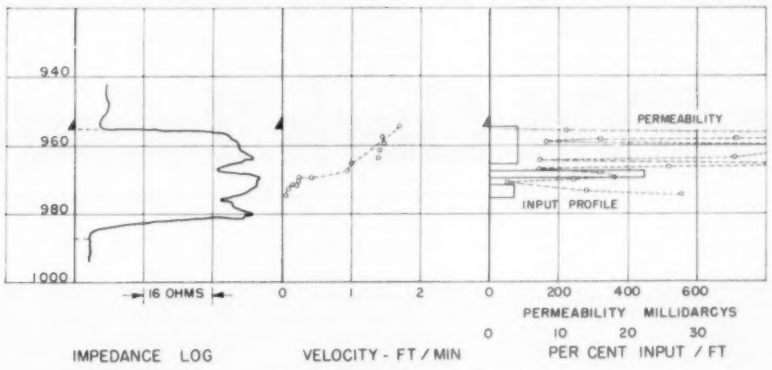


FIG. 11 — COMPOSITE LOG OF ELECTRIC LOG, INTERFACE VELOCITY, INPUT PROFILE AND PERMEABILITY LOG, WELL E.

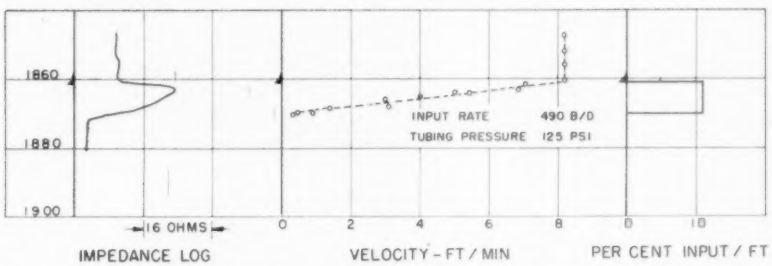


FIG. 12 — COMPOSITE LOG OF ELECTRIC LOG, INTERFACE VELOCITY AND INPUT PROFILE, WELL F.

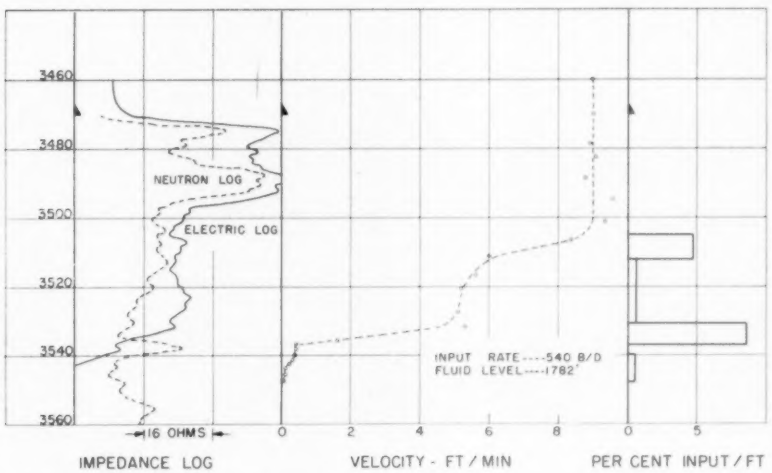


FIG. 13 — COMPOSITE LOG OF ELECTRIC LOG, NEUTRON LOG, INTERFACE VELOCITY AND INPUT PROFILE, WELL G.

Interpretation of Results

In reviewing the information recorded on this series of wells, it was seen that in addition to the input profile data, several other points affecting the performance of the floods were found:

1. Casing was set too high, resulting in flooding of an unproductive zone.
2. It is possible to flood undesirable zones due to misleading data in the well records.
3. A condition of unstable fluid levels can exist in an atmosphere injection well which is not evident at the surface, indicating the necessity for further understanding of injection rates and pressures.
4. Input profiles obtained at various injection rates would present data permitting a better selection of operating conditions.

Conclusions

It was concluded from the work done on this series of tests that:

1. The interface velocity method of determining input profiles can be satisfactorily employed for obtaining this information under the varying conditions existing in water flood fields.
2. The data obtained from the flow back curves offers further information as to the major zones of water entry.
3. A correlation curve for adjusting results to previous geological knowledge of the well and area is highly important.
4. The ability to locate and record the casing seat with respect to the data being obtained is of definite value.
5. The variations in bore holes can influence the results, making it necessary to have a caliper log or equivalent on each well.
6. Correlation of input profile surveys can be had with permeability logs obtained from cores.
7. The input profile data is definitely needed and is vitally important to the success of a secondary recovery program.

References

1. Elliot, R. D.: Patent 1,537,919.
2. Bowler, E. P.: *Producers Monthly* (June, 1941), **6**, 15-24.
3. Hefley, D. G., and Fitzgerald, P. L.: "Selective Acidizing and Per-

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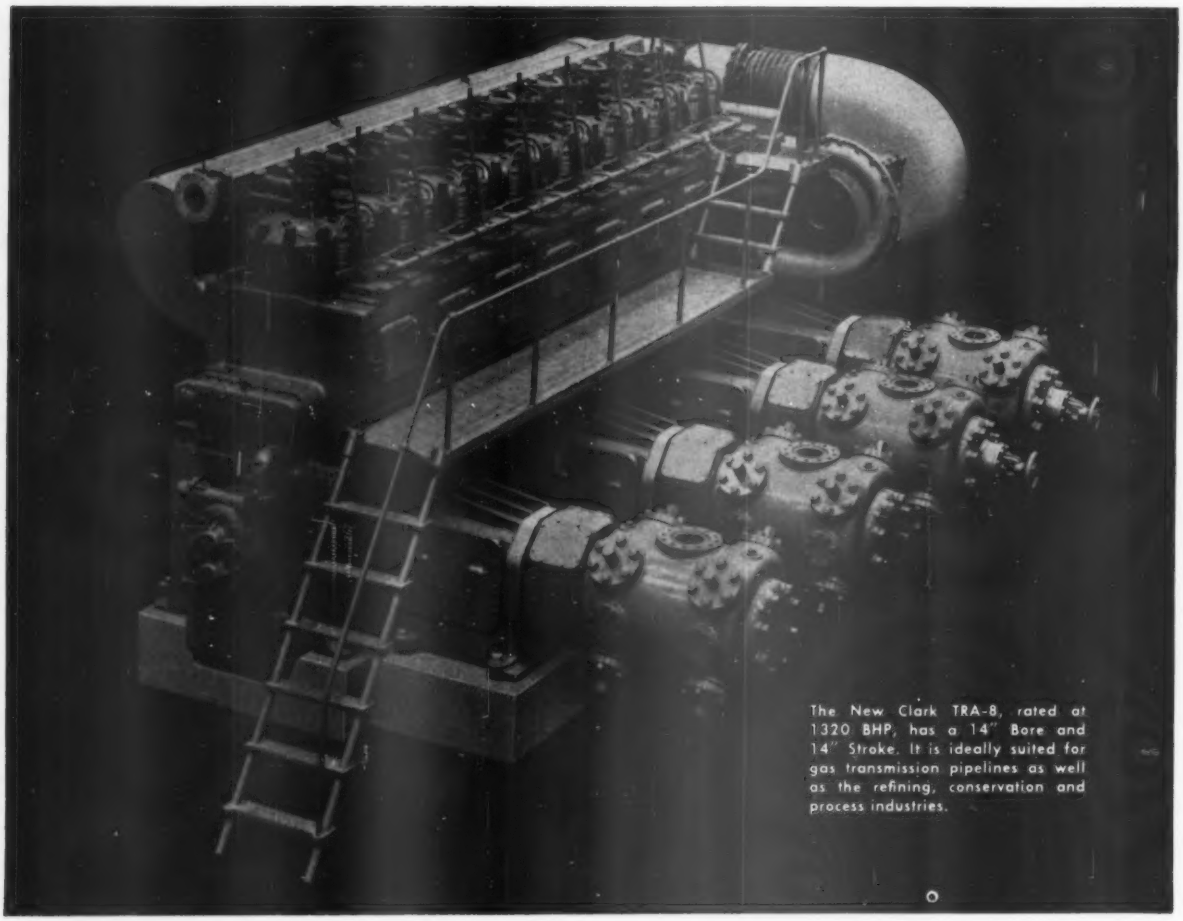

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Nominees for Petroleum Branch Offices, 1954

For Chairman

JOHN R. MCMILLAN was educated at the University of California at Los Angeles, and California Institute of Technology, where he received a BS degree in engineering in 1931. He joined Barnsdall Oil Co., progressing from production roustabout to foreman, and then to the land and geological department. Since July, 1943, he has been employed by Fullerton Oil Co., serving as engineer, manager of field operations, and for the past six years as director and vice-president in charge of production. He is a past Chairman of the Pacific Petroleum Chapter of AIME, and has been on the Executive Committee of the Southern California Section. He also served on the Branch Executive Committee for two years, and was Branch Vice-Chairman in 1952. He is active in the AAPG, the API and the Los Angeles Petroleum Club.

For Vice-Chairman

D. W. AKINS, JR., was graduated from Texas A. & M. College in 1932. He joined the Ohio Oil Co. in 1933, and served as roustabout, pumper and in the construction department. He then became assistant petroleum engineer, and rose to his present position as division petroleum engineer in Shreveport, La. He is chairman of the engineering committee of the Haynesville Operators' Committee Unit and the Cotton Valley Operators' Committee Unit, and is chairman of the general committee, East Texas Engineering Association. He served as Director of the East Texas Section of AIME in 1946 and 1947, as Chairman in 1948, and as Section Delegate to the Annual Meeting in 1949. He is a member of the API and the Shreveport Geological Society.

For Vice-Chairman

THOMAS C. FRICK received a BS in 1933 from the University of Tulsa, and was subsequently employed by Phillips Petroleum Co. at Bartlesville. For five years he was on the engineering faculty at the University of Tulsa, and in 1941 he joined The Atlantic Refining Co. in Dallas as job analyst for the southwest division. In 1944 he became district superintendent at Longview, and three years later was transferred to the West Texas-New Mexico region, where he became supervisor of drilling, production, engineering, material and natural gas operations. Since 1951 he has been regional co-ordinating manager for operations, exploration and land, located in Corpus Christi. He is a former Chairman of both the East Texas and Permian Basin Sections of AIME, and has been on the Branch Executive Committee since 1951.

For Executive Committee

BURTON ATKINSON, consulting petroleum engineer in Midland, Texas, received an engineering degree from Rice Institute in 1932. After employment with Standard Oil of Venezuela and Humble Oil and Refining Co., and three years' service in the United States Navy, he left Humble's engineering department to engage in consulting work. He has served as Chairman and Director of the Permian Basin Section, AIME, and his services on the Petroleum Branch Membership Committee include the Committee Chairmanship. Atkinson was one of the founders of the Permian Basin Engineering Society which came into the AIME in 1945 to form the Permian Basin Section.

For Executive Committee

WILLIAM D. OWSLEY was born at Chickasha, Okla., and educated at Georgia School of Technology and the University of Oklahoma, where he received a BS degree in petroleum engineering in 1931. He was first employed by Halliburton Oil Well Cementing Co. during the summers of 1929-31, and has been with the company full-time since 1932. He was Halliburton's first division engineer for the Gulf Coast of Louisiana and Texas and the state of California. He has also been design engineer for special equipment, supervisor of mechanical research and development, chief engineer, and technical advisor to management. Since July, 1950, he has been vice-president for engineering advice to management. He is also a member of API and ASME.

The Branch Nominating Committee, composed of Paul R. Turnbull, chairman, H. J. Gruy, M. T. Higgs, R. E. Howard, and L. W. Swanbeck, has nominated the members pictured on this page for positions in the Branch government. Article IX of the By-Laws calls for publication in June of the pictures and biographies of these nominees. Any group of 10 members may submit additional nominations until Aug. 15. A letter ballot, covering all positions to which the membership has submitted nominations, will be mailed in September. If there are no nominations from the membership by Aug. 15, the letter ballot will be dispensed with and the Committee's nominees will be declared automatically elected. The new officers will be installed at the 1954 Annual Meeting in February.

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PROBLEM	SOLUTION	RESULT
1. Producing well loses all production. No production even after perforating by other make of jet perforator.	Improved McCullough 2¼" Sectional Burrless Bullet Perforator. Twenty holes shot through the 4½" cemented upset tubing at about 6800 feet. Time one hour and 45 minutes.	**0 B/D to 70 B/D**
2. New Well. Very hard chalk formation. Always had to be acidized to make production. Two strings cemented casing—5½" and 7".	Improved McCullough Super Formation Glass Jet Perforator and Steel Strip Carrier. Twenty-five holes shot at about 2100 feet. Time—one hour.	**0 B/D to 50 B/D** More production than usual from this formation and without acidizing.
3. Had been perforated with other make perforator, swabbed dry without recovering any oil.	Improved McCullough Standard Glass Jet Perforator and Steel Strip Carrier. Thirty holes shot through 5½", 15½ # cemented casing at about 5700 feet. Time—one hour and thirty minutes.	**0 B/D to 360 B/D** Best well in field.
4. Well had been shot by other make jet perforator without results.	Improved McCullough 3½" M-3 Burrless Bullet Perforator shot 260 ½" holes at about 10,000 feet. Time—seven hours.	Well surfaced and started flowing in five hours. Production not given.
5. Company engineer wanted well perforated fastest way.	New McCullough Super Casing Glass Jet Perforator with a 50-foot Steel Strip Carrier.	Two hundred holes shot simultaneously in one hour and five minutes—a savings of four hours rig time.
6. New Well. Operator expected top production of 500 B/D.	Improved McCullough 4¼" M-3 Burrless Bullet Perforator. Eight hundred seventy holes shot through 7" cemented casing at about 6000 feet in thirteen hours.	**0 B/D to 1000 B/D** A mighty fine well!!

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You agreed that Radioactivity Well Logging worked in both open hole and cased hole, and that the Neutron Curve indicated the fluid-bearing zones in the formations defined by the Gamma Ray Curve. But you got away before I could get across the important point that in Lane-Wells Logging both these curves have high repeatability -- which means reliability; you can depend on their information. There are plenty of logs in our files that prove it; we'll show you some that have been released, any time you like.

You agreed also that the casing collar log was a valuable guide for all future work in the well -- I just want to emphasize that a great part of that value lies in Lane-Wells accurate depth measurements. You know that's true.

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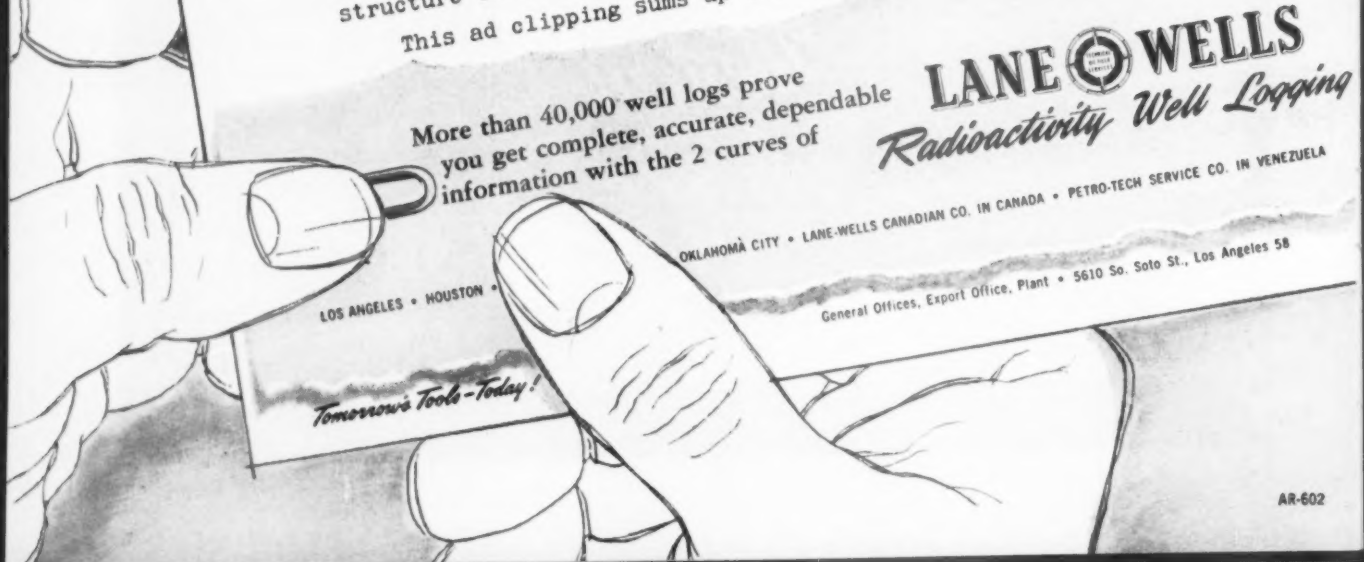
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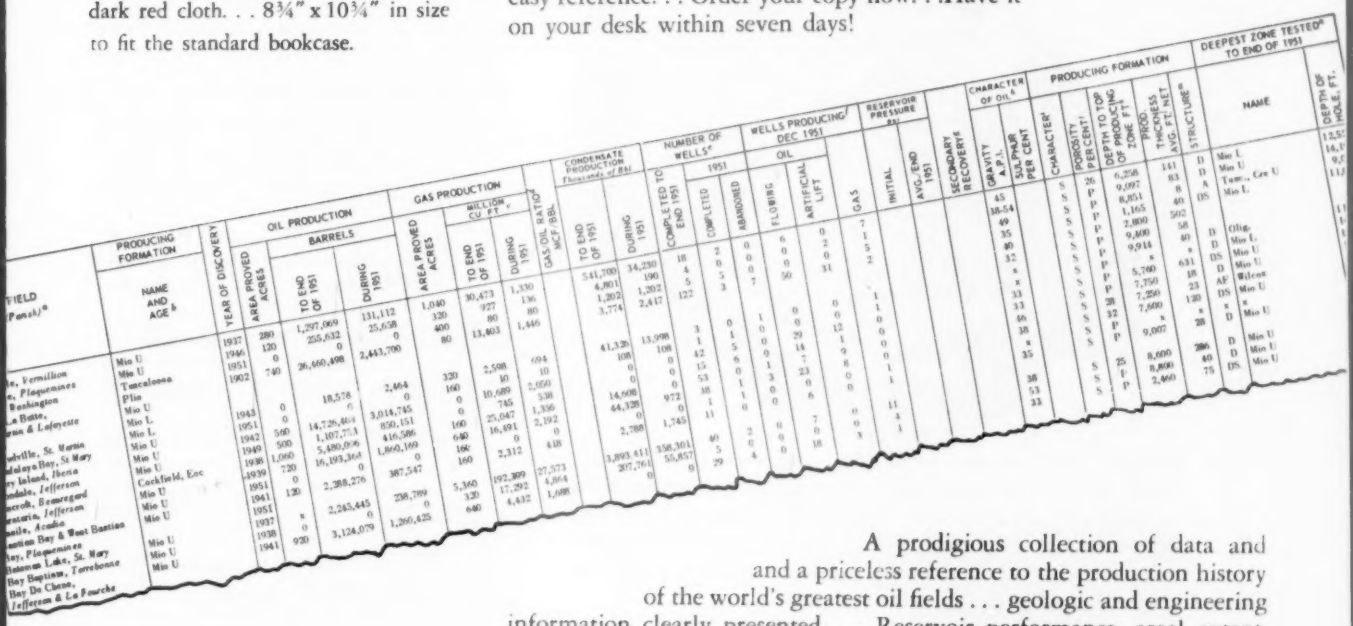

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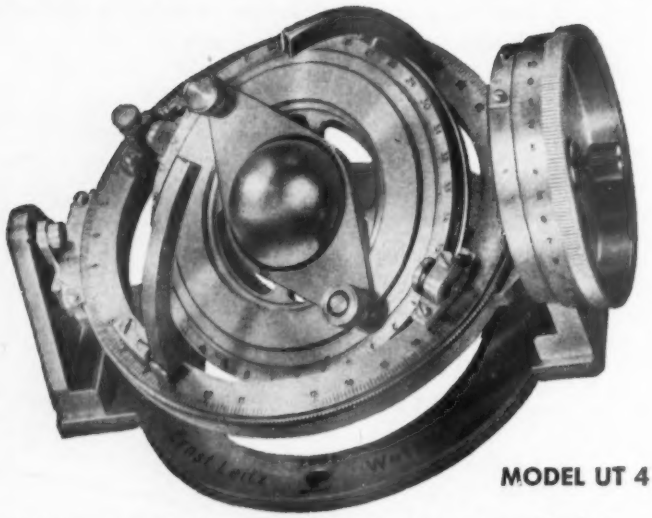

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Clay Minerals Conference Announced for Oct. 15-17

"Genesis of Clays and Related Minerals" will be the theme of the Clay Minerals Conference to be held at the University of Missouri, Columbia, Mo., Oct. 15 to 17. The conference is sponsored by the National Clay Minerals Committee, a branch of the National Research Council. Anyone interested in presenting a paper on this theme or on clay mineralogy, technology, physical behavior of clays, techniques of mineral determination, origin of soils, clays in soils, origin and distribution of clays in soils, clays related to ore deposits, and allied topics, should write A. F. Frederickson, Washington University, St. Louis, Mo. A detailed program including field-trip information, will be available on request in August. ★ ★

Water Input Profiles

Continued from Page 17, Section 1

meability Determination by an Electrical Method," *Trans.* AIME, (1944) **155**, 223.

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5. McCormick, R. L., and Pfister, R. J.: "Water Input Profile Measurement," *Oil and Gas Journal* (Dec. 23, 1944), 92.
6. Morgan, F., Reed, D. W., and Gray, L. L.: "Meter for Measuring Distribution of Gas Flow in Well Bores," *Trans.* AIME, (1948) **174**, 253.
7. Pfister, R. J.: "An Improved Water Input Profile Instrument," *Trans.* AIME, (1948) **174**, 269.
8. Kaveler, H. H., and Hunter, Z. Z.: "Observations from Profile Logs of Water Injection Wells," *Trans.* AIME, (1952) **195**, 129.
9. Piety, R. G., and Wiley, B. F.: "Flowmeter for Water Injectivity Profiling," *World Oil* (May, 1952).
10. Tapper, Wilfred, and Hartline, R. E.: "The Strataflow Process, a Recent Development in Locating Water Entry in Wells," *Trans.* AIME, (1952) **195**, 183.
11. Wright, F. F.: "*A Report on Unsuccessful Water Floods*," API Paper No. 851-26-H (1952).
12. Ennis, G. H.: Patent No. 1,994,761.

★ ★ ★

–Memorial–

Warren A. Sinsheimer

By John M. Lovejoy

Many of the older members of AIME will mourn the loss of Warren A. Sinsheimer. For 30 years or more he had been active in the affairs of the Institute. As a member of many of the Institute's committees pertaining to petroleum economics, geology, and engineering, he was always ready to give his time and effort for the good of AIME.

Sinsheimer died at his home in Harrison, N. Y., on Nov. 28th, after a long illness. He was born at San Luis Obispo in 1885, and was graduated from the University of California in 1907. After a few years in the California oil fields as warehouse man, pumper, tool dresser, he joined the Cities Service Co. first in Oklahoma, but was soon moved to their New York offices, which had been his headquarters since 1919.

For many years Warren was manager of the company's oil pipeline and production department. He was a director and officer of many Cities Service subsidiaries, including the Empire Gas and Fuel, Arkansas Fuel and Petroleum Advisers, Inc. His most highly valued assignment was that of petroleum economics coordinator for Cities Service activities, which involved long range studies and planning for the vast activities of the Cities Service group of companies.

One of Sinsheimer's chief characteristics was his tremendous curiosity, not only about his business and profession but covering a wide range of subjects as well. He was an avid reader of early exploration and development of California and the West. His business activities required a great deal of traveling and covered such a wide field that he had little time for outside hobbies. Warren was a great home and family man and enjoyed working around his delightful country home at Harrison, N. Y.

Sinsheimer served as a member of the Henry L. Doherty Memorial Committee of the Institute since its inception. Because of Doherty's great contributions toward a better understanding of the importance of gas as a prime mover in oil recovery, Sinsheimer and many others felt that a fund should be established within the Institute to perpetuate his name. The principal amount of the Henry L. Doherty Fund was recently finalized by contributions from the Doherty Foundation, the Frueauff Foundation, the W. Alton Jones Foundation, and the Cities Service Co. Sinsheimer's guidance in this matter was most helpful.

Surviving are his wife, two daughters, Jean and Ann, all of Harrison, and a son, Warren A. Sinsheimer, Jr., of Dallas, Tex.

Many of us will miss Warren's penetrating discussions of economic affairs and particularly the warm friendship which he so freely gave. ★ ★ ★

Necrology

Clifford P. Bowie (Member 1928) died April 1, 1952. Bowie was supervising engineer to the U.S. Bureau of Mines, San Francisco Petroleum Office from 1916 to 1946. He received his BS from the University of California in 1904, an honorary CE in 1932. While with the Pipe Line Co. from 1906 to 1916, Bowie supervised the construction of 300 miles of rifled 8-in. pipe from Bakersfield, Calif., to San Francisco Bay, the only rifled pipe line in the world. His inventions included the Bowie-Gavan Process, oil well formation slotter, and drilling wells through heaving formations. He was the author of Bureau of Mines Bulletins, magazine articles and technical papers. During World War I Bowie was technical advisor to the U.S. Fuel Administration.

Sandford H. Casteel (Member 1942) died on on June 20, 1952. He was vice-president of Landreth Co., Fort Worth, Tex. He received his early education at the U.S. Naval Academy and was at one time a lieutenant in the Marines. After gaining engineering and geological experience with various oil companies in the southwest, he took post graduate work at Stanford University and became division geologist for Landreth.

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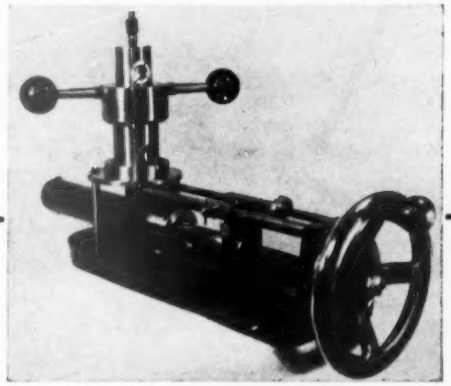

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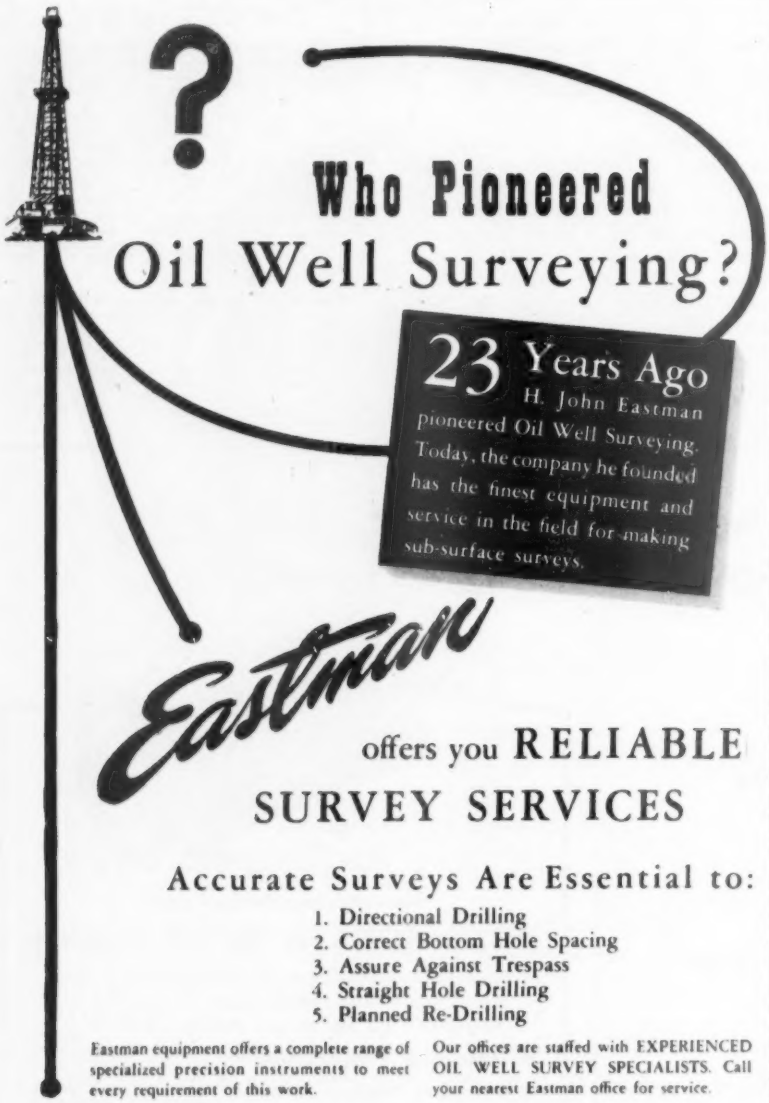
Personals

DUNCAN M. SMITH, JR., received an LLB degree from Louisiana State University this month, and has become associated with the firm of Hargrove, Guyton, Van Hook and Hargrove in Shreveport. A graduate petroleum engineer from LSU, he was employed as production and drilling engineer by the California Co. for two years before entering the law school.

+

PHINN W. TOWNSEND, JR., a May graduate of the Colorado School of Mines, has joined Sinclair Oil and Gas Co. in Oklahoma City as a junior petroleum engineer.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EWELL N. WALSH, recently a student at Louisiana State University, is now a petroleum engineer with the El Paso Natural Gas Co. at Farmington, N. M.

+

WELDON E. WILLIAMS, recently associated with Sunray Oil Corp. in Victoria, Tex., has joined The Chicago Corp. in Corpus Christi.

+

JAMES W. ROCKHOLD has opened consulting offices for petroleum and geological engineering in the McBride Bldg., Great Bend, Kans. Until recently he was employed by the National Cooperative Refinery Association.

+

PAUL T. SEASHORE was to retire this month as director and first vice-president of the Louisiana Land and Exploration Co. He has been with the company since 1927, and has served as director and vice-president and general manager since 1931. He plans to reside in Carmel, Calif., but will continue to serve the firm as consultant. OWEN F. THORNTON, vice-president of the company, will become the senior officer in charge of operations.

+

PARK JONES, oil and gas production consultant, has announced the removal of his offices to 216 Melrose Bldg., Houston, Tex.

+

K. C. HEALD, vice-president and director of Gulf Oil Corp., retired from active service effective June 1. He will continue to carry on certain consulting work. Recognized as one of the world's most renowned geologists, Heald received the Sidney Powers Memorial Medal last year. This is the highest honor bestowed by the American Association of Petroleum Geologists. Educated at the University of New Mexico, Colorado College, and Yale University, he joined Gulf as chief staff geologist in 1925. He was elected a vice-president in 1945 and placed in charge of the company's exploration and production activities in the United States and Canada. In 1950, he was elected to the Gulf Board and at that time he was made responsible for the company's world-wide exploration and production activities.

Schedule of Local Section Meetings

DALLAS SECTION

Meeting City: Dallas, Tex.

CHAIRMAN	SECRETARY
E. R. Brownscombe	T. E. Morton
Atlantic Ref. Co.	Halliburton
Dallas, Tex.	Dallas, Tex.
PR-6484	RI-3841

Meets third Monday each month

DELTA SECTION

Meeting City: New Orleans, La.

CHAIRMAN	SECRETARY
R. S. Sullins	Byron L. Francis
Humble Oil & Ref. Co.	The Texas Co.
New Orleans, La.	New Orleans, La.
AU-8751	CA-8592

Meets second Tuesday each month

EAST TEXAS SECTION

Meeting Place: Gregg County Airport

CHAIRMAN	SECRETARY
H. L. Long	H. D. Miller
Independent Oil Op.	Amerada Pet. Corp.
Kilgore, Tex.	Longview, Tex.
Phone 4416	Phone 1878

Meets second Tuesday each month

FORT WORTH SECTION

Meeting City: Fort Worth, Tex.

CHAIRMAN	SECRETARY
H. J. Gruy	T. M. Curtis
Consultant	Stanolind Oil & Gas
Fort Worth, Tex.	Fort Worth, Tex.
FO-6157	FO-5661

Meets third Tuesday each month

GULF COAST SECTION

Meeting City: Houston, Tex.

CHAIRMAN	SECRETARY
Kenneth B. Ford	Pete Cawthon, Jr.
J. R. Butler & Co.	City National Bank
Houston, Tex.	Houston, Tex.
AT-9455	FA-2131

Meets third Tuesday each month

ILLINOIS BASIN CHAPTER

Meeting City: Salem, Ill.

CHAIRMAN	SECRETARY
Jerry Vaughan	Harry Bridges
Sun Oil Co.	Shell Oil Co.
Evansville, Ind.	Centralia, Ill.
Phone 3-4291	Phone 711

Meets first Thursday each month
(No meetings during July and August)

KANSAS SECTION

Meeting Cities: Wichita and Great Bend, Kans.

CHAIRMAN	SECRETARY
J. R. Puckett	John T. Gary
Magnolia Pet. Co.	Continental Oil Co.
Wichita, Kans.	Wichita, Kans.
4-1301	7-8347

Meets second Wednesday in Wichita, fourth Thursday in Great Bend
(No meetings during June, July and August)

LOU-ARK SECTION

Meeting City, Shreveport, La.

CHAIRMAN	SECRETARY
A. H. Crawford	L. R. Lacy
Crawford Drilling Co.	Phillips Pet. Co.
Shreveport, La.	Shreveport, La.
4-4441	2-3124

Meets tentatively first Monday each month

MID-CONTINENT SECTION

Meeting City: Tulsa, Okla.

CHAIRMAN	SECRETARY
G. C. MacDonald	F. H. Callaway
Gulf Oil Corp.	Stanolind Oil & Gas Co.
Tulsa, Okla.	Tulsa, Okla.

Meets second Monday each month
(Study Group meets fourth Tuesday each month)
(Luncheon meetings each Thursday, Mayo Hotel)

NORTH TEXAS SECTION

Meeting City: Wichita Falls, Tex.

CHAIRMAN	SECRETARY
Rollie P. Dobyns	John H. Bolstad
U. S. Bureau of Mines	Continental Oil Co.
Wichita Falls, Tex.	Wichita Falls, Tex.

Meets second Monday each month

MISSISSIPPI SUB-SECTION

(of Delta Section)

Meeting Cities: Laurel, Jackson and Natchez, Miss.

CHAIRMAN	SECRETARY
John A. Rodgers	Paul Tsimortos
Gulf Refining Co.	Gulf Refining Co.
Lumberton, Miss.	Lumberton, Miss.
Phone 4501	Phone 4653

OKLAHOMA CITY SECTION

Meeting City: Oklahoma City, Okla.

CHAIRMAN	SECRETARY
L. F. Elkins	C. R. Miller
Sohio Petroleum Co.	Schlumberger
Oklahoma City	Oklahoma City
RE-90511	RE-91487

Meets third Thursday each month

PACIFIC PETROLEUM CHAPTER

Meeting City: Los Angeles, Calif.

CHAIRMAN	SECRETARY
F. L. Wadsworth	C. K. Ferguson
General Pet. Corp.	California Research
Los Angeles, Calif.	La Habra, Calif.
MA6-5711	OX7-1721

PERMIAN BASIN SECTION

Meeting Cities: Midland and Odessa

CHAIRMAN	SECRETARY
J. C. Blackwood	Maurice Lewis, Jr.
Amerada Pet. Corp.	British-American Oil
Midland, Tex.	Midland, Tex.
Phone 4-5533	Phone 4-8021

Meets third Monday each month

SAN JOAQUIN VALLEY GROUP

(of Pacific Petroleum Chapter)

Meeting City: Bakersfield, Calif.

CHAIRMAN	SECRETARY
R. P. Mangold	C. A. Davis
D. K. Partnerships	Richfield Oil Corp.
Bakersfield, Calif.	Bakersfield, Calif.
Bakersfield 32561	Maricopa 92631

Meets first Tuesday alternate months
(Feb., April, June, Aug., Oct., Dec.)

SOUTH PLAINS SECTION

Meeting City, Lubbock, Tex.

CHAIRMAN	SECRETARY
J. W. Brown	J. B. Livingston
Stanolind Oil & Gas	Haliburton Oil Well
Brownfield, Tex.	Cem. Co.
Phone 2166	Lubbock, Tex.
	Phone 5-5725

Meets third Thursday each month

SOUTHWEST TEXAS SECTION

Meeting City: Corpus Christi, Tex.

CHAIRMAN	SECRETARY
Ivan Tucker	Chester L. Wheless
Atlantic Ref. Co.	La Gloria Corp.
Corpus Christi, Tex.	Corpus Christi ,Tex
Phone 3-9372	Phone 3-8553

Meets third Wednesday each month
(No meetings July, August and December)

WEST CENTRAL TEXAS SECTION

Meeting City: Abilene, Tex.

CHAIRMAN	SECRETARY
J. L. Coulson	J. E. Russell
Warren Pet. Corp.	Reddin Oper. Comm.
Abilene, Tex.	Abilene, Tex.
Phone 4-8113	Phone 2-4031

Meets third Wednesday each month

WYOMING SECTION

Meeting City: Casper, Wyo.

CHAIRMAN	SECRETARY
R. D. Ferguson	W. R. Kahla
U. S. Geological Surv.	Ohio Oil Co.
Casper, Wyo.	Casper, Wyo.
Phone 3-4561	Phone 3-5721

Meets in alternate months
(No specific dates set)

AIME MEETING CALENDAR

Petroleum Branch Fall Meeting — Oct. 18-21, 1953, Baker and Adolphus Hotels, Dallas, Tex.; Oct. 17-20, 1954, San Antonio, Tex.

Pacific Petroleum Chapter Fall Meeting — Oct. 1-2, 1953, Ambassador Hotel, Los Angeles, Calif.

AIME Fall Meeting — Oct. 29-31, 1953, El Paso, Tex.

AIME Annual Meeting — Feb. 14-18, 1954, Statler Hotel, New York, N. Y.

PERMIAN BASIN SECTION OFFICERS for the current year, L to R, are Maurice Lewis, Jr., British American Oil Producing Co., Secretary- Treasurer; J. C. Blackwood, Amerada Petroleum Corp., Chairman; Ray Brack, Ohio Oil Co., Vice-Chairman; and J. T. Lewis, Kobe, Inc., Vice-Chairman. All reside in Midland, Texas.

Final Budget Sets $608,100 Expenditure for 1953

At its meeting in Tulsa, May 13, the Board of Directors approved the final budget for 1953. This indicated an income of $651,000, compared with actual income of $593,381 in 1952; and expenses of $608,100, compared with actual expenses of 575,315 in 1952. Of the surplus, $10,000 was returned to the Special Fund for Publications which had been drawn upon during the years of serious deficits, and of the anticipated surplus for 1953, $30,000 is earmarked for return to this reserve fund. The Fund will still remain less than half of what it was before it was tapped to meet the serious deficits of 1947-49, amounting, in those three years, to $182,000.

1954 Nominations Completed

S. S. Clarke, chairman of the Nominating Committee for AIME Officers in 1954, states that the report of the Committee was made unanimous by mail vote following the meeting of the Committee in Los Angeles in February. The ticket was headed by Henry DeWitt Smith for President-elect.

HAVE YOU CHANGED YOUR ADDRESS?

In order that publications and correspondence may reach you promptly, the Petroleum Branch, AIME, should be advised as soon as possible of any change in your address, *preferably a month before the change becomes effective.* For the AIME directory and for the Personals column of the JOURNAL OF PETROLEUM TECHNOLOGY, additional information is desired. The form below is provided for your convenience, and should be sent to Petroleum Branch, AIME, 800 Fidelity Union Bldg., Dallas 1, Tex.

Name_____ Membership No._____

Old Address_____

_____

New Address for Publications_____

Title or Position Held_____

Address for Directory Listing_____

List below your former title or company position, nature of your new position, or other information of interest to your associates for publication in the JOURNAL OF PETROLEUM TECHNOLOGY.

_____

_____

_____

One month normally required for change of address.

Proposed for Membership Petroleum Branch

Total AIME membership on Mar. 31, 1953, was 18,475; in addition 1,098 Student Associates were enrolled.

PETROLEUM BRANCH ADMISSIONS COMMITTEE

J. H. Sullivan, Chairman; Thomas S. Bacon, Vice-Chairman; A. E. Caraway, Frank C. Kelton, Thomas E. Morton, and F. C. Prutzman.

INSTITUTE ADMISSIONS COMMITTEE

O. B. J. Fraser, Chairman; Philip D. Wilson, Vice-Chairman; F. A. Ayer, A. C. Brinker, R. H. Dickson, Max Gensamer, Ivan A. Given, Fred W. Hanson, T. D. Janes, G. W. Lutjen, E. A. Prentis, Sidney Rolle, J. T. Sherman, F. T. Sisco, and R. L. Ziegfeld.

The Institute desires to extend its privileges to every person to whom it can be of service, but does not desire as members persons who are unqualified. Institute members are urged to review this list as soon as possible and immediately to inform the Secretary's office if names of people are found who are known to be unqualified for AIME membership.

In the following list C/S means change of status; R, reinstatement; M, Member; J, Junior Member; A, Associate Member; S, Student Associate.

CALIFORNIA

Anaheim — McEwen, Cassius Richard (J).
Fullerton — Pearce, Robert Stanley (J).
Glendale — Grime, James Russell (C/S-S-J).
Pacific Palisades — Sheldon, Theodore Dwight (J).
Tupman — Dunbar, Walter Leo Maas (J).
Whittier — Culf, Harold George (J)

ILLINOIS

Carmi — George, Jerry Vance (R, C/S-S-J).

LOUISIANA

New Orleans — Hiser, Wilber Floyd (M); McMurry, Charles Raymond (M); Zeidner, Martin A. (J).
Port Sulphur — Wornat, Richard Oscar (J).
Shreveport — Kuykendall, William Schuyler (J); Wolfe, Donald Edward (J).

MISSISSIPPI

Baxterville — Jax, Jerry Robert (J).
Hattiesburg — Brust, Richard Lee (R, C/S-S-J).

NEW YORK

Brooklyn — Elkind, Morris D. (J).

OHIO

Hamilton — Kaefer, Gene John (C/S-S-J).

OKLAHOMA

Bartlesville — Grandone, Peter (M); Johnston, Kenneth Howard (M); Modrall, James Willard (M); Riggs, Calvin Harold (M); Walker, C. J. (J).
Norman — Menzie, Donald E. (M).
Oklahoma City — Shelton, Howard Bucklin (M).
Ponca City — Coffer, Henry F. (M).
Tulsa — Stewart, Fraizer McVale (R, C/S-A-M).

TEXAS

Agua Dulce — Adams, Dayne Eldon (R, C/S-S-J).
Amarillo — Parr, Charles Frank (J).
Bellaire — Webster, Joe Townsen (M).
Corpus Christi — Bracewell, Loraine Matthew, Jr. (J); Nesmith, Fred S., Jr. (J); Ramby, Roland Lloyd (M); Spies, Walter (M).
Dallas — Lipstate, Philip H., Jr. (C/S-J-M).
Fort Worth — Sawyer, Floyd Dempsey (J).
Gainesville — Uhrlaub, James Albert (R, C/S-S-J).
Hamlin — Levy, Irwin L. (J).
Hawkins — Ingram, Billy J. (J).
Houston — Carmichael, Charles Joseph, Jr. (J); Harrell, John Kenneth (M); Perkins, Frederick Myers, Jr. (J); Woodruff, Frank Norman (M).
Lyford — Adams, Wayne Durwood (J).
Odessa — Slaughter, Ernest, Jr. (A).
Robstown — Dittlinger, Eugene Charles (C/S-S-J); Thompson, Dow Carlin (A).
Sinton — Buthod, John Lieuen (R, C/S-S-J).
Wichita Falls — Darner, Richard Ranney (J).

WYOMING

Casper — Parrent, Kenneth Gaylord (R, C/S-S-J).

BURMA

Moulmein — Nyun, Maung Thein (R, C/S-S-J).

CANADA

Black Diamond, Alta. — Berlie Elmer Milton (J).

★ ★ ★

President Fletcher Returns From Australian Trip

AIME President Andrew Fletcher returned to New York May 6 after a six weeks' trip most of which was spent in Australia. He attended the Fifth Empire Mining and Metallurgical Congress in that country and gave several talks. Before leaving the country he was made an Honorary Member of the Australasian Institute of Mining and Metallurgy. On his return to the USA, Fletcher attended AIME meetings in San Francisco, Reno, Salt Lake City, Denver, Golden, and Casper. Within a week after his return he departed for Tulsa to attend a meeting of the Mid-Continent Section, AIME, and of the Board of Directors. After a tour of the International Petroleum Exposition, he stopped for a meeting of the Tri-State Section at Joplin, addressed the students at Rolla, attended a meeting of the St. Louis Section, and was honor guest of the Chicago Section on President's Night, May 23. ★ ★ ★

AIME Joins Investigation Of Bureau of Standards

Dismissal of Allen V. Astin, director of the National Bureau of Standards, by Secretary Weeks, of the Department of Commerce, two or three months ago aroused a storm of protest from professional men. It appeared that the dismissal was caused by an adverse opinion of the Bureau on a certain additive to storage batteries, which the makers argued was a meritorious product. Most of the professional societies felt that the matter was of a political nature and that they should not sit in judgment. They agreed, however, to participate in a committee named, as Secretary Weeks expressed it, "to evaluate the present functions and operations of the Bureau of Standards in relation to the present national needs." Clyde Williams was named by the AIME as its representative on a seven-man committee headed by M. J. Kelly, president of the Bell Telephone Laboratories. ★ ★ ★

Oklahoma A&M Elections

The Petroleum Engineering Club of Oklahoma A&M College has elected the following officers for the forthcoming year: Bill Easton, President; Charles Minton, Vice-President; Terry Reub, Recording Secretary; John Jarboe, Corresponding Secretary; Denzel Eaton, Treasurer; Dutro Witcher, O.I.T. Student Council; Gerald Austin, tool pusher; and Ed Terrel, sports chairman. A. T. Woods, instructor, was re-elected sponsor. ★ ★ ★

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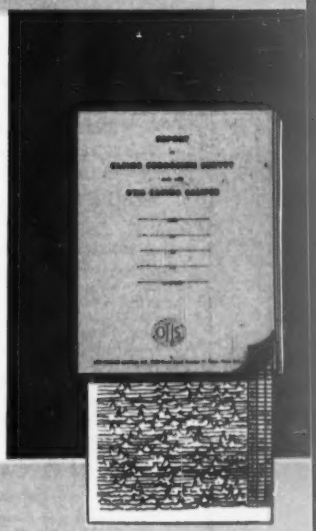

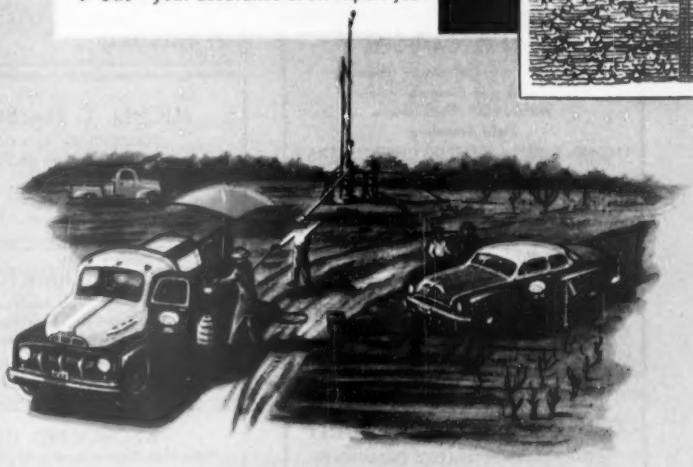

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NEW MID-CONTINENT SECTION OFFICERS were installed at the May 12 meeting in Tulsa. L to R above are Jack Beesley, Baroid Sales Division, retiring Chairman; G. C. MacDonald, Gulf Oil Corp., incoming Chairman; M. B. Penn, Mid-Continent Petroleum Corp., Vice-Chairman (Program); S. F. Bird, Amerada Petroleum Corp., Vice-Chairman (Membership); and F. H. Callaway, Stanolind Oil and Gas Co., Secretary-Treasurer.

Employment Notices

The JOURNAL will post notices of men and jobs available. Companies and AIME members are invited to use this space, for which there is no charge. Except as noted below, address replies to: Code (appropriate number), JOURNAL OF PETROLEUM TECHNOLOGY, 800 Fidelity Union Bldg., Dallas 1. Show return address on envelope. These replies will be forwarded unopened and no fees are involved.

Replies to the positions coded Y8555 and T9859 below should be addressed to: Engineering Societies Personnel Service, 8 West 40th St., New York 18, N. Y. The ESPS, on whose behalf these notices are published here, collects a fee from applicants actually placed.

PERSONNEL

♦ Petroleum engineer, 33. BS degree in petroleum engineering. 13 years' experience in petroleum production and industrial engineering, mineral-industry economics and technical writing. Last four years engaged as standards engineer on oil-field drilling and producing equipment, petroleum products and chemicals. Relocating in Southwest after assignment as standards engineer with major national manufacturer in Northeast. Desires petroleum industry connection in engineering or sales. Code 194.

♦ Petroleum exploration engineer wants connection with aggressive independent seeking increased oil production in Rocky-Mountain or Mid-Continent areas. Code 195.

POSITIONS

♦ Continental Oil Co. has several openings for petroleum engineers in the Rocky Mountain region, minimum of three years' experience required. Also opening for mechanical engineer with oil field experience. Applicants contact C. C. Frye, regional petroleum engineer, 1755 Glenarm Place, Denver, Colo.

♦ Sales engineer, 26-30, with engineering degree and equipment experience, for sales and service of liquefied petroleum gas facilities. Traveling in East. Salary $5,100 a year. Headquarters, New York, N. Y. Y8555.

♦ Petroleum engineer, recent graduate or better, to call on industrials in general, selling and promoting petroleum for a petroleum refinery. Salary, $387 to $425 per month. Employer will pay fee. Travel one state, home weekends. Car required. Location, Chicago or Ohio. T9859.

♦ District geologist for petroleum exploration in Texas Central Gulf Coast region with newly organized production company. Headquarters in Houston. Must have degree in geology, and three to five years' sub-surface geological experience in area. Salary open. Code 547.

★ ★ ★

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Strang Promoted to API Post

Formal announcement of the appointment of William H. Strang as director of the Division of Production of the American Petroleum Institute was made this month.

A former Executive Secretary of the Petroleum Branch, AIME, Strang will succeed Carl A. Young, who is retiring July 1 after 29 years of service with the Institute. Both men are from Dallas, Tex., where the API Production headquarters are located. Strang has been assistant director of the Division of Production since Feb., 1950, when he first became affiliated with the Institute.

Strang is a native of Denver, Colo., and studied petroleum engineering at the Colorado School of Mines and the University of Oklahoma. He received his degree from the University in 1938.

He roughnecked in the Kansas oil fields after graduation, then joined Continental Oil Co. as an assistant proration engineer. In 1939, he joined the staff of *The Oil Weekly* (now *World Oil*) as research engineer, and later became Gulf Coast editor for that publication.

He became Executive Secretary of the Petroleum Branch, AIME, in April, 1946, and established the Branch offices in Dallas. He also served as editorial director and business manager of the JOURNAL OF PETROLEUM TECHNOLOGY. ★ ★ ★

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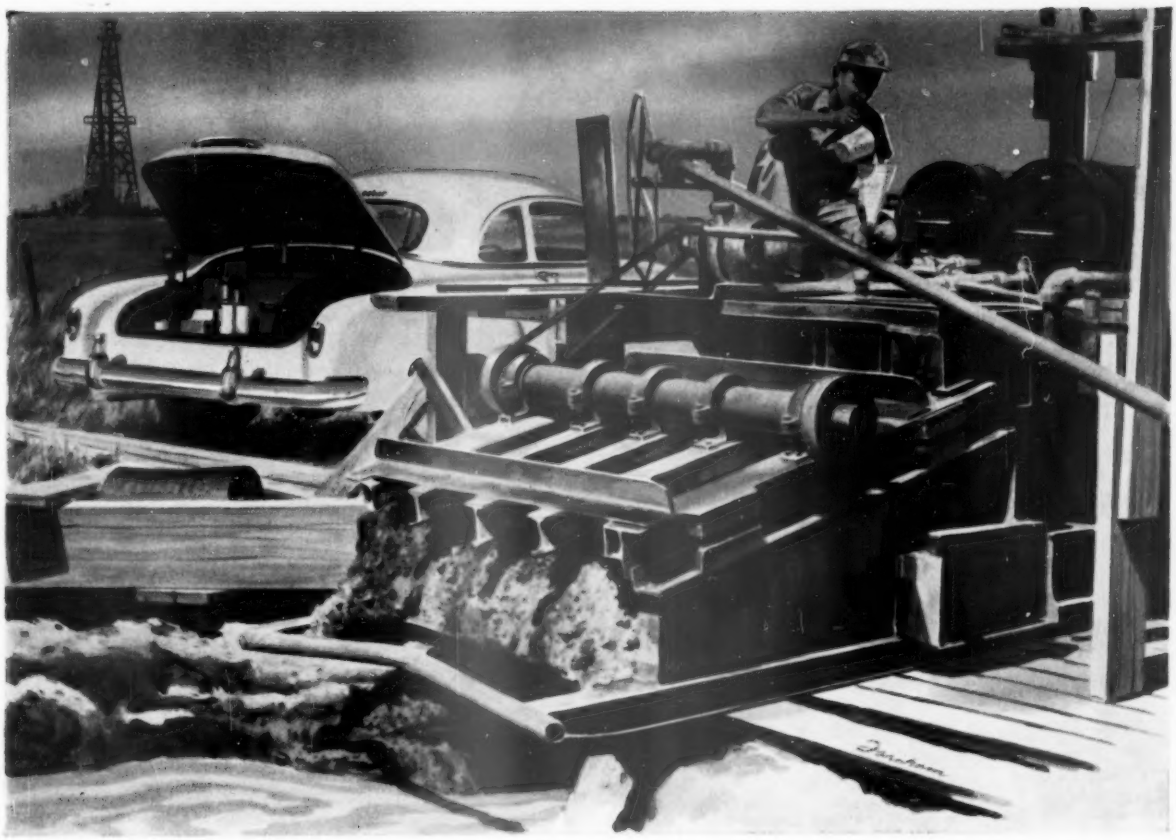

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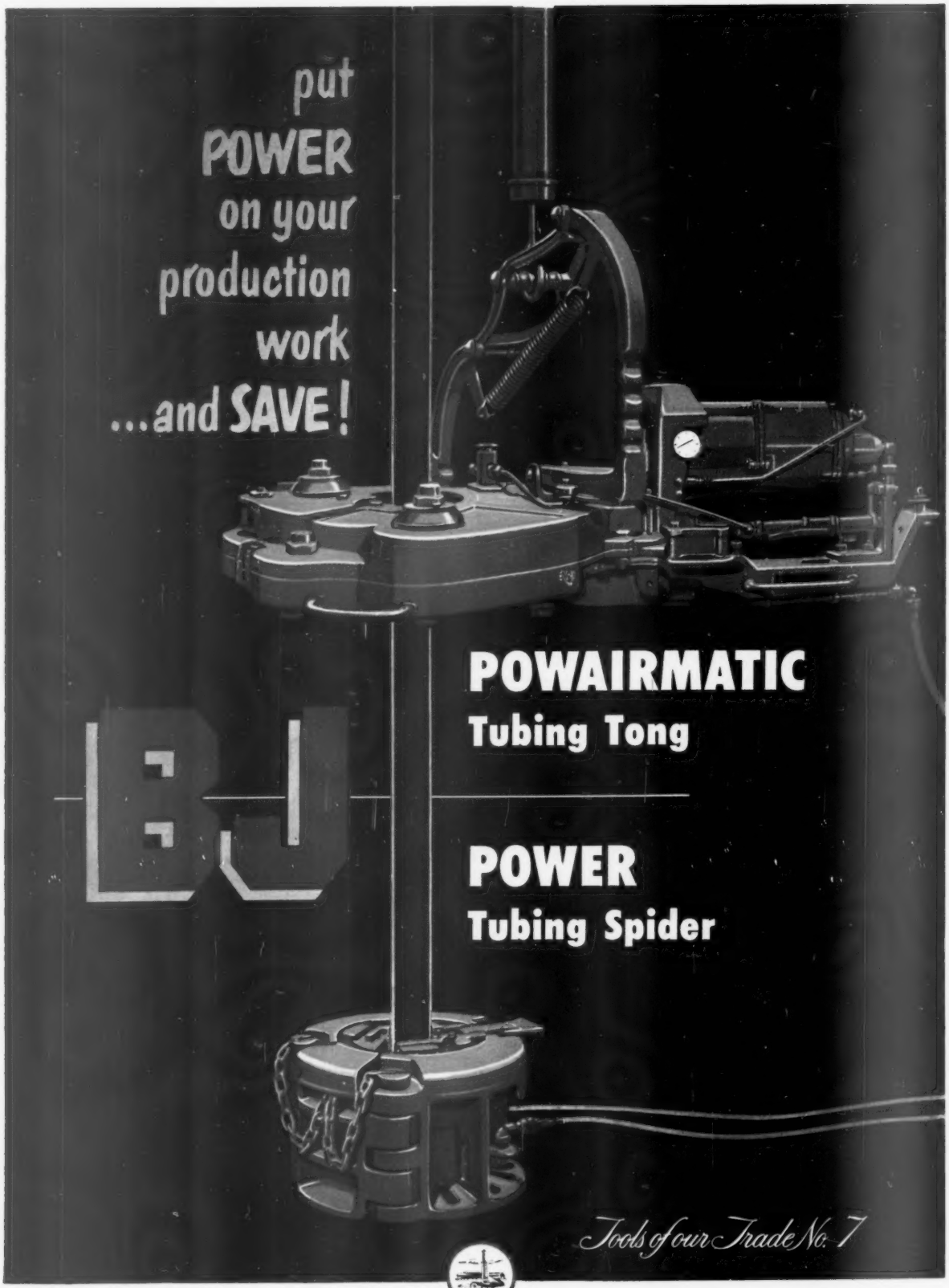

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